

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Gailene R. Gabel Examiner #: 76197 Date: 1/17/01  
 Art Unit: 1141 Phone Number 305-7807 Serial Number: 091403, 085  
 Mail/Box and Bldg/Room Location: 7E12 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*  
 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Process for Isolating a Target Molecule Biological Capture  
 Inventors (please provide full names): Elaissari, Abdelhamid Duracher, David Pichot, Christian Mallet, Francois Novelli-Rousseau Armelle  
 Earliest Priority Filing Date: 4/16/97

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search claims 1, 5, 6, 8, 11-13, 16-17,  
 especially structure in claim 7.  
 formula 19-20  
 22

highlighted terms

Please find abstract

NOT a sequence search

Phanai  
 Cont.

## STAFF USE ONLY

Searcher: JDN DAATUNA

Searcher Phone #: \_\_\_\_\_

Searcher Location: \_\_\_\_\_

Date Searcher Picked Up: 1-26-01Date Completed: 1-26-01Searcher Prep & Review Time: 40

Clerical Prep Time: \_\_\_\_\_

Online Time: 70

## Type of Search

NA Sequence (#) \_\_\_\_\_

AA Sequence (#) \_\_\_\_\_

Structure (#) \_\_\_\_\_

Bibliographic ☒

Litigation \_\_\_\_\_

Fulltext \_\_\_\_\_

Patent Family ☒

Other \_\_\_\_\_

## Vendors and cost where applicable

STN ☒

Dialog \_\_\_\_\_

Questel/Orbit \_\_\_\_\_

Dr.Link \_\_\_\_\_

Lexis/Nexis \_\_\_\_\_

Sequence Systems \_\_\_\_\_

WWW/Internet \_\_\_\_\_

Other (specify) \_\_\_\_\_

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(FILE 'HOME' ENTERED AT 10:15:10 ON 26 JAN 2001)

FILE 'HCAPLUS' ENTERED AT 10:15:22 ON 26 JAN 2001

L1           59 S ELAISSARI A?/AU  
L2           13 S DURACHER D?/AU  
L3           186 S PICHOT C?/AU  
L4           63 S MALLET F?/AU  
L5           772 S NOVELLI?/AU  
L6           1 S L1 AND L2 AND L3 AND L4 AND L5  
              SELECT RN L6 1

FILE 'REGISTRY' ENTERED AT 10:16:28 ON 26 JAN 2001

L7           17 S E1-17

FILE 'HCAPLUS' ENTERED AT 10:16:42 ON 26 JAN 2001

L8           1 S L6 AND L7

=> d bib abs hitstr

*Inventor Search*

L8 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2001 ACS  
 AN 1998:716219 HCAPLUS  
 DN 129:313117  
 TI Method and immunoassay assembly for the detection of biological materials  
 using a capture phase with immobilized reagent  
 IN **Elaissari, Abdelhamid; Duracher, David; Pichot,  
 Christian; Mallet, Francois; Novelli-Rousseau,  
 Armelle**  
 PA Bio Merieux, Fr.  
 SO PCT Int. Appl., 25 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9847000	A2	19981022	WO 1998-FR772	19980416
	WO 9847000	A3	19990211		
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
	FR 2762394	A1	19981023	FR 1997-4923	19970416
	FR 2762394	B1	19990528		
	AU 9874362	A1	19981111	AU 1998-74362	19980416
	EP 975968	A2	20000202	EP 1998-921550	19980416
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
PRAI	FR 1997-4923		19970416		
	WO 1998-FR772		19980416		
AB	The invention concerns a method for isolating a target biol. material contained in a sample, consisting of the following steps: providing a capture phase, in microparticulate or linear form, consisting of at least a first particulate or linear polymer, with apparent hydrophile character and first complexing groups, the latter being bound by co-ordination to a first transition metal, which is itself bound to a first biol. entity capable of specifically recognizing the target biol. material; contacting said target biol. material with at least the capture phase; and detecting the capture phase-target biol. material complex, optionally with a detection phase, in microparticulate or linear form, and consisting of at least a second particulate or linear polymer, with apparent hydrophile character and second complexing groups, the latter being bound by co-ordination to a second transition metal, which is itself bound to a second biol. entity capable of specifically recognizing the target biol. material, and a marker. Markers are e.g. enzymes, fluorescent dyes, magnetic particles, antigens, heptanes, antibodies. Thus styrene-N-isopropylacrylamide copolymer was functionalized with 2-aminoethyl methacrylate; poly(N-isopropylacrylamide) was functionalized with maleic anhydride-methylvinylether copolymer and grafted to the amino-group contg. polymer. Zn <sup>2+</sup> was bound to the complexation groups				

and

the recombinant protein RH24 with a histidine tag was immobilized to obtain the capturing phase.

IT 52-90-4, L-Cysteine, properties 71-00-1, L-Histidine, properties

RL: PRP (Properties)

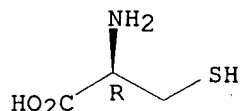
(method and immunoassay assembly for detection of biol. materials using

a capture phase with immobilized reagent)

RN 52-90-4 HCAPLUS

CN L-Cysteine (9CI) (CA INDEX NAME)

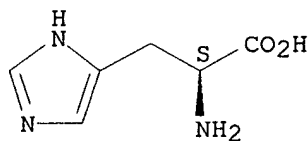
Absolute stereochemistry.



RN 71-00-1 HCAPLUS

CN L-Histidine (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



IT 97-65-4, Itaconic acid, reactions 7439-92-1, Lead, reactions 7439-95-4, Magnesium, reactions 7439-96-5, Manganese, reactions 7440-02-0, Nickel, reactions 7440-05-3, Palladium, reactions 7440-06-4, Platinum, reactions 7440-48-4, Cobalt, reactions 7440-50-8, Copper, reactions 7440-57-5, Gold, reactions 7440-66-6D, Zinc, complex with graft polymer 7659-36-1D, 2-Propenoic acid, 2-methyl-, 2-aminoethyl ester, reaction with styrene-N-isopropylacrylamide copolymer and grafted with maleic anhydride-methylvinylether copolymer functionalized poly(N-isopropylacrylamide)

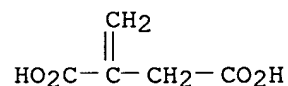
RL: RCT (Reactant)

(method and immunoassay assembly for detection of biol. materials using

a capture phase with immobilized reagent)

RN 97-65-4 HCAPLUS

CN Butanedioic acid, methylene- (9CI) (CA INDEX NAME)



RN 7439-92-1 HCAPLUS  
CN Lead (8CI, 9CI) (CA INDEX NAME)

Pb

RN 7439-95-4 HCAPLUS  
CN Magnesium (8CI, 9CI) (CA INDEX NAME)

Mg

RN 7439-96-5 HCAPLUS  
CN Manganese (8CI, 9CI) (CA INDEX NAME)

Mn

RN 7440-02-0 HCAPLUS  
CN Nickel (8CI, 9CI) (CA INDEX NAME)

Ni

RN 7440-05-3 HCAPLUS  
CN Palladium (8CI, 9CI) (CA INDEX NAME)

Pd

RN 7440-06-4 HCAPLUS  
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

RN 7440-48-4 HCAPLUS  
CN Cobalt (8CI, 9CI) (CA INDEX NAME)

Co

RN 7440-50-8 HCAPLUS  
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

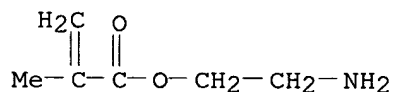
RN 7440-57-5 HCAPLUS  
CN Gold (8CI, 9CI) (CA INDEX NAME)

Au

RN 7440-66-6 HCAPLUS  
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

RN 7659-36-1 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 2-aminoethyl ester (9CI) (CA INDEX NAME)

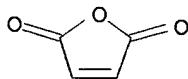


IT **9011-16-9DP**, 2,5-Furandione, polymer with methoxyethene, reaction with poly(N-isopropylacrylamide) and graft polymer with styrene-N-isopropylacrylamide copolymer functionalized with 2-aminoethyl methacrylate **25189-55-3DP**, Poly(N-isopropylacrylamide), reaction with 2,5-furandione polymer with methoxyethene and graft polymer with styrene-N-isopropylacrylamide copolymer functionalized with 2-aminoethyl methacrylate **97381-57-2DP**, reaction with 2-Propenoic acid, 2-methyl-, 2-aminoethyl ester and grafted with poly(N-isopropylacrylamide) functionalized with 2,5-furandione polymer with methoxyethene  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)  
(method and immunoassay assembly for detection of biol. materials using a capture phase with immobilized reagent)

RN 9011-16-9 HCAPLUS  
CN 2,5-Furandione, polymer with methoxyethene (9CI) (CA INDEX NAME)

CM 1

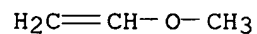
CRN 108-31-6  
CMF C4 H2 O3



CM 2

CRN 107-25-5

CMF C3 H6 O



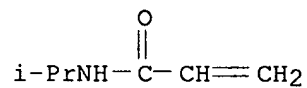
RN 25189-55-3 HCAPLUS

CN 2-Propenamide, N-(1-methylethyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 2210-25-5

CMF C6 H11 N O



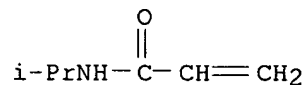
RN 97381-57-2 HCAPLUS

CN 2-Propenamide, N-(1-methylethyl)-, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 2210-25-5

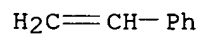
CMF C6 H11 N O



CM 2

CRN 100-42-5

CMF C8 H8



GABEL

09/403085

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(FILE 'HOME' ENTERED AT 10:15:10 ON 26 JAN 2001)

FILE 'HCAPLUS' ENTERED AT 10:15:22 ON 26 JAN 2001

L1 59 S ELAISSARI A?/AU  
L2 13 S DURACHER D?/AU  
L3 186 S PICHOT C?/AU  
L4 63 S MALLET F?/AU  
L5 772 S NOVELLI?/AU  
L6 1 S L1 AND L2 AND L3 AND L4 AND L5  
SELECT RN L6 1

FILE 'REGISTRY' ENTERED AT 10:16:28 ON 26 JAN 2001

L7 17 S E1-17

FILE 'HCAPLUS' ENTERED AT 10:16:42 ON 26 JAN 2001

L8 1 S L6 AND L7  
L9 54 S (DETN OR DETERMIN? OR ANALY? OR DETECTION) (4A) (SAMPLE OR  
BIOL  
L10 1464 S (DETN OR DETERMIN? OR ANALY? OR DETECTION) AND COMPLEX? AND  
H  
L11 157 S L10 AND (TRANSITION METAL OR ZINC OR ZN OR NICKEL OR NI OR  
CO  
L12 198 S L10 AND (COBALT OR CO OR IRON OR FE)  
L13 104 S L10 AND (MAGNESIUM OR MG OR MANGANESE OR MN)  
L14 93 S L10 AND (LEAD OR PB OR PALLADIUM OR PD)  
L15 49 S L10 AND (PLATINUM OR PT OR GOLD OR AU)  
L16 414 S L11-L15

FILE 'REGISTRY' ENTERED AT 11:08:29 ON 26 JAN 2001

FILE 'HCAPLUS' ENTERED AT 11:08:34 ON 26 JAN 2001

SET SMARTSELECT ON  
L17 SEL L16 1- RN : 2595 TERMS  
SET SMARTSELECT OFF

FILE 'REGISTRY' ENTERED AT 11:09:03 ON 26 JAN 2001

L18 2591 S L17  
L19 242 S L18 AND PMS/CI

FILE 'HCAPLUS' ENTERED AT 11:11:01 ON 26 JAN 2001

L20 113 S (L11-L15) AND L19  
E DETER/CV  
E DETERMIN/CV  
E DETERMIN/IT  
E DETERMINATION/IT  
L21 798794 S DETERMINATION/IT  
L22 21 S L20 AND L21  
L23 55 S L20 AND (ANALY? OR DETN OR DETECT?)/IT  
L24 55 S L22 OR L23  
L25 17 S L9 AND (L11-L15)  
L26 13 S L25 NOT L24

GABEL

09/403085

FILE 'WPIDS' ENTERED AT 11:52:02 ON 26 JAN 2001

L27	36 S L9
L28	8 S L27 AND (TRANSITION METAL OR ZINC OR ZN OR NICKEL OR NI )
L29	10 S L27 AND ((COBALT OR CO OR IRON OR FE OR COPPER OR CU))
L30	5 S L27 AND (MAGNESIUM OR MG OR MANGANESE OR MN)
L31	5 S L27 AND (LEAD OR PB OR PALLADIUM OR PD)
L32	5 S L27 AND (PLATINUM OR PT OR GOLD OR AU)
L33	18 S L28-L32
L34	12 S L33 AND (POLY? OR POLYMER?)

L26 ANSWER 1 OF 13 HCAPLUS COPYRIGHT 2001 ACS  
AN 2000:222269 HCAPLUS  
DN 133:55391  
TI Influence of the Denticity of Ligand Systems on the in Vitro and in Vivo Behavior of  $^{99m}\text{Tc}(\text{I})$ -Tricarbonyl **Complexes**: A Hint for the Future Functionalization of Biomolecules  
AU Schibli, Roger; La Bella, Roberto; Alberto, Roger; Garcia-Garayoa, Elisa; Ortner, Kirstin; Abram, Ulrich; Schubiger, P. A.  
CS Center for Radiopharmaceutical Science of the ETH Zuerich, Paul Scherrer Institute, Villigen, CH-5232, Switz.  
SO Bioconjugate Chem. (2000), 11(3), 345-351  
CODEN: BCCHE; ISSN: 1043-1802  
PB American Chemical Society  
DT Journal  
LA English  
AB Functionalization of biol. relevant mols. for the labeling with the novel  $\text{fac-}[^{99m}\text{Tc}(\text{OH}_2)_3(\text{CO})_3]^+$  precursor has gained considerable attention recently. Therefore, we tested seven different tridentate (histidine L1, iminodiacetic acid L2, N-2-picolylamineacetic acid L3, N,N-2-picolylaminodiacetic acid L4) and bidentate (histamine L5, 2-picolinic acid L6, 2,4-dipicolinic acid L7) ligand systems, with the potential to be bifunctionalized and attached to a biomol. The ligands allowed mild radiolabeling conditions with  $\text{fac-}[^{99m}\text{Tc}(\text{OH}_2)_3(\text{CO})_3]^+$  (30 min, 75 .degree.C). The ligand concns. necessary to obtain yields of >95% of the corresponding organometallic **complexes** 1-7 ranged from  $10^{-6}$  to  $10^{-4}$  M. **Complexes** of the general formula " $\text{fac-}[^{99m}\text{TcL}(\text{CO})_3]$ " (L = tridentate ligand) and " $\text{fac-}[^{99m}\text{Tc}(\text{OH}_2)\text{L}'(\text{CO})_3]$ " (L' = bidentate ligand), resp., were produced. Challenge studies with cysteine and histidine revealed significant displacement of the ligands in **complexes** 5-7 but only little exchange with **complexes** 1-4 after 24 h at 37 .degree.C in PBS buffer. However, no decompn. to  $^{99m}\text{TcO}_4^-$  was obsd. under these conditions. All **complexes** showed a **hydrophilic** character (log Po/w values ranging from -2.12 to 0.32). Time-dependent FPLC **analyses** of compds. 1-7 incubated in human plasma at 37 .degree.C showed again no decompn. to  $^{99m}\text{TcO}_4^-$  after 24 h at 37 .degree.C. However, the **complexes** with bidentate ligands (5-7) became almost completely protein bound after 60 min, whereas the **complexes** with tridentate coordinated ligands (1-4) showed no reaction with serum proteins. The compds. were tested for their in vivo stability and the biodistribution characteristics in BALB/c mice. The **complexes** with tridentate coordinated ligand systems (1-4) revealed generally a good and fast clearance from all organs and tissues. On the other hand, the **complexes** with only bidentate coordinated ligands (5-7) showed a significantly higher retention of activity in the liver, the kidneys, and the blood pool. Detailed radiometric **analyses** of murine plasma samples, 30 min p.i. of **complex**  $\text{fac-}[^{99m}\text{TcL1}(\text{CO})_3]$ , 1, revealed almost no reaction of the radioactive **complex** with the plasma proteins. By contrast, in plasma samples of mice, which were injected with **complex**  $\text{fac-}[^{99m}\text{Tc}(\text{OH}_2)\text{L5}(\text{CO})_3]^+$ , 5, the entire radioactivity coeluded with the proteins. On the basis of these in vitro and in vivo expts., it appears that functionalization of biomols. with

tridentate-chelating ligand systems is preferable for the labeling with fac-[<sup>99m</sup>Tc(OH<sub>2</sub>)<sub>3</sub>(CO)<sub>3</sub>]<sup>+</sup>, since this will presumably result in radioactive bioconjugates with better pharmacokinetic profiles.

RE.CNT 20

RE

- (2) Alberto, R; J Am Chem Soc 1998, V120, P7987 HCAPLUS
  - (3) Alberto, R; J Am Chem Soc 1999, V121, P6076 HCAPLUS
  - (4) Alberto, R; Polyhedron 1996, V15, P1079 HCAPLUS
  - (5) Alberto, R; Transition Met Chem 1997, V22, P597 HCAPLUS
  - (7) Costello, C; J Nucl Med 1983, V24, P353 HCAPLUS
- ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 2 OF 13 HCAPLUS COPYRIGHT 2001 ACS  
AN 1998:793662 HCAPLUS  
DN 130:121082  
TI Mean-field **analysis** of protein-protein interactions  
AU Olson, Mark A.  
CS Molecular Modeling Laboratory, and Department of Cell Biology and  
Biochemistry, USAMRIID, Frederick, MD, 21702-5011, USA  
SO Biophys. Chem. (1998), 75(2), 115-128  
CODEN: BICIAZ; ISSN: 0301-4622  
PB Elsevier Science B.V.  
DT Journal  
LA English  
AB Calcns. were performed on the D1.3-E5.2 antibody-antibody **complex**  
estg. the binding affinities of the wild-type and 16 alanine  
substitutions. **Analyzed** were structural models of the  
interfacial region contg. a **zinc** ion and crystallog. waters. A  
continuum approach was used to evaluate the electrostatic free energies  
and the hydrophobic effect was calcd. by employing a buried mol. surface  
area relationship. Ests. of the abs. binding affinity reproduced the  
exptl. value within the uncertainty of assessing entropic and strain  
energy contributions. The best correlation for mutants with exptl. data  
was achieved when the **hydrophilicity** of created cavities were  
considered, and yielded a correlation coeff. of 0.7 and an av. error of  
.+-1.4 kcal/mol. Empirically fitting the free energy function produced  
a  
smaller error of .+-1.0 kcal/mol. Depending on the elec. potential and  
electrostatic reorganization, scaling the 'protein dielec. const.' to  
.apprx.10 may improve the accuracy of continuum models for evaluating  
amino acid substitutions.  
RE.CNT 32  
RE  
(2) Dall'Acqua, W; Biochemistry 1996, V35, P9667 HCAPLUS  
(3) Doig, A; Protein Sci 1995, V4, P2247 HCAPLUS  
(4) Erickson, H; J Mol Biol 1989, V206, P465 HCAPLUS  
(5) Finkelstein, A; Protein Eng 1989, V3, P1 HCAPLUS  
(6) Froloff, N; Protein Sci 1997, V6, P1293 HCAPLUS  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 3 OF 13 HCAPLUS COPYRIGHT 2001 ACS  
AN 1998:693848 HCAPLUS  
DN 130:10156  
TI Partially methylated .beta.-cyclodextrin **analysis**. A systematic approach to appropriate RP column selection  
AU Caron, I.; Elfakir, C.; Dreux, M.  
CS Inst. Chimie Organique Analytique, Univ. Orleans, Orleans, F-45067, Fr.  
SO J. High Resolut. Chromatogr. (1998), 21(10), 554-560  
CODEN: JHRCE7; ISSN: 0935-6304  
PB Wiley-VCH Verlag GmbH  
DT Journal  
LA English  
AB To establish guidelines for the choice of the most suitable octadecyl- or octyl-bonded phase for the liq. chromatog. **anal.** of a given partially methylated .beta.-cyclodextrin **sample, anal.** of com. available dimethyl-.beta.-cyclodextrins (DM-.beta.-CDs) was carried out on octyl- (C8), or octadecyl- (C18), silica-, or polymeric bonded phases which differ significantly in their **hydrophilic** and hydrophobic properties. Chromatograms show that the nature of the packing materials has considerable influence on the resolu. of **complex** mixts. composed of closely related compds. such as partially methylated .beta.-CDs. Among various kinds of C8- and C18-bonded phases, silica-based and monomeric phases which present both reinforced hydrophobic and polar interactions showed the best performance.  
Whatever the **complexity** of the com. DM-.beta.-CD, the richest chromatog. fingerprints, which best depict the **complexity** of the mixt., are obtained with Nucleosil 50-5-C8 column. For the simplest mixts., Nucleosil 50-5-C8 column with MeCN/H2O (34:66) as mobile phase is the most suitable chromatog. system and **leads** to the best resolu. between heptakis(2,6-di-O-methyl)-.beta.-CD and hexakis(2,6-di-O-methyl)-mono(2,3,6-tri-O-methyl)-.beta.-CD (14 OMe and  
15 OMe). This chromatog. system might enable an LC-MS coupling for direct identification of the different components in the mixt. as well as control of batch to batch variations.  
RE.CNT 27  
RE  
(1) Bidlingmeyer, B; J Chromatogr Sci 1997, V35, P392 HCAPLUS  
(2) Bielejewska, A; Anal Chim Acta 1995, V300, P201 HCAPLUS  
(3) Caron, I; Chromatographia 1998, V47, P383 HCAPLUS  
(4) Caron, I; J Chromatogr A 1996, V746, P103 HCAPLUS  
(6) Chatjigakis, A; Chromatographia 1993, V36, P174 HCAPLUS  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 4 OF 13 HCAPLUS COPYRIGHT 2001 ACS

AN 1997:223849 HCAPLUS

DN 126:222541

TI A Metal-Chelating Lipid for 2D Protein Crystallization via Coordination of

Surface Histidines

AU Pack, Daniel W.; Chen, Guohua; Maloney, Kevin M.; Chen, Chao-Tsen; Arnold,

Frances H.

CS Division of Chemistry and Chemical Engineering, California Institute of Technology, Pasadena, CA, 91125, USA

SO J. Am. Chem. Soc. (1997), 119(10), 2479-2487

CODEN: JACSAT; ISSN: 0002-7863

PB American Chemical Society

DT Journal

LA English

AB Two-dimensional protein crystn. on lipid monolayers is becoming a powerful

technique for structure **detn.** as well as **materials** applications. However, progress has been hindered by the requirement of

a

unique affinity lipid for each new protein of interest. Metal ion coordination by surface-accessible histidine side chains provides a convenient and general method for targeting of proteins to surfaces.

Here

we present the synthesis and characterization of a metal-chelating lipid which has been designed to target proteins to Langmuir monolayers and promote their two-dimensional crystn. based on histidine coordination. The lipid utilizes the metal chelator iminodiacetate (IDA) as the **hydrophilic** headgroup and contains unsatd., oleoyl tails to provide the fluidity necessary for two-dimensional protein crystn. The lipid is shown to bind **copper** from the subphase strongly when incorporated in Langmuir monolayers. In addn., it is possible to form **copper**-contg. monolayers by spreading the premetalated lipid on the subphase in the absence of **copper**. Fluorescence microscopy reveals the binding and crystn. of the protein streptavidin, promoted by the simultaneous coordination of two surface-accessible histidine side chains to the IDA-Cu lipid.

L26 ANSWER 5 OF 13 HCAPLUS COPYRIGHT 2001 ACS  
AN 1997:161627 HCAPLUS  
TI Relationship between point source remediation and speciation of the  
inputs  
of **copper** and **zinc** into a Chesapeake Bay tributary.  
AU Kango, Reyaz A.; Short, John T.; Hicks, K. W.  
CS Department Chemistry, Norfolk State University, Norfolk, VA, USA  
SO Book of Abstracts, 213th ACS National Meeting, San Francisco, April 13-17  
(1997), GEOC-200 Publisher: American Chemical Society, Washington, D. C.  
CODEN: 64AOAA  
DT Conference; Meeting Abstract  
LA English  
AB Urban wastes contribute huge amts. of toxic metals to coastal waters.  
Waste inputs into Elizabeth river (a tributary of Chesapeake Bay) from  
point sources are being taken care by waste treatment facilities. Our  
**anal.** on wastewater **samples** before and after remediation  
suggested that speciation of metals effects their remediation properties.  
**Anal.** and speciation of the metals was done by DPP, DPASV and AAS.  
Results from electrochem. techniques show that urban wastewaters have up  
to 3000 ppb of **zinc** and 130 ppb of **copper**. Remediated  
samples had significant levels of **zinc** present as  
**hydrophilic** org. **complexes** (about 500ppb). Remediation  
in the case of **copper** seemed effective (less than 1 ppb). Work  
is in progress to devise protocols for effective remediation chemistries  
in the case of **zinc**.

L26 ANSWER 6 OF 13 HCAPLUS COPYRIGHT 2001 ACS  
AN 1996:581948 HCAPLUS  
DN 125:269655  
TI Adsorption of Cd,Zn-metallothionein on covered Hg electrodes and  
its voltametric **determination**  
AU Fedurco, Milan; Sestakova, Ivana  
CS J. Heyrovsky Institute of Physical Chemistry, Academy of Sciences of the  
Czech Republic, Prague, 182 23/8, Czech.  
SO Bioelectrochem. Bioenerg. (1996), 40(2), 223-232  
CODEN: BEBEBP; ISSN: 0302-4598  
DT Journal  
LA English  
AB Compact triphenylphosphine oxide or tripiperidinophosphine oxide films  
formed at Hg surfaces are shown to increase Cd,Zn  
-metallothionein (MT) adsorptivity at the polarized electrode/soln.  
interface. Interactions of the polar P:O group of these adsorbates with  
the **hydrophilic** centers located on the metalloprotein exterior  
are suggested as being responsible for this phenomenon. The resulting  
cathodic current ( $i_c$ ) due to the redn. of coordinated Cd(II) in Cd,  
Zn-MT increases more than seven times in the presence of  
 $1.0 \times 10^{-3}$  M triphenylphosphine oxide. The  $i_c$  response at about  
-0.72  
V vs. Ag/AgCl then varies linearly with the bulk concn. of Cd,Zn  
-MT from  $2 \times 10^{-9}$  to  $5 \times 10^{-5}$  mol dm<sup>-3</sup>. **Detection** limit  
for the rabbit liver Cd,Zn-MT is found to be  $8.9 \times 10^{-10}$  mol  
dm<sup>-3</sup> using the differential pulse voltametric technique on a hanging  
mercury drop electrode. This novel method for the **detection** of  
the thiolate-chelated Cd(II) **complexes** allows the filtering out  
of cathodic currents due to electroredn. of the free-uncoordinated Cd<sup>2+</sup>  
ions which might interfere with the MT **detn.** in some  
**biol. samples**. Advantages of the present method  
compared to other electroanal. methods for MT **detn.** are  
discussed.

L26 ANSWER 7 OF 13 HCAPLUS COPYRIGHT 2001 ACS

AN 1996:324732 HCAPLUS

DN 125:75408

TI Differential cytotoxicity of **iron** chelators on malaria-infected cells versus mammalian cells

AU Glickstein, Hava; Breuer, William; Loyevsky, Mark; Konijn, Abraham M.; Libman, Jacqueline; Anzer, Abraham; Cabantchik, Z. Ioav

CS Inst. Life Sci., Hebrew Univ. Jerusalem, Jerusalem, 91904, Israel

SO Blood (1996), 87(11), 4871-4878

CODEN: BLOOAW; ISSN: 0006-4971

DT Journal

LA English

AB **Iron** chelators of the hydroxamate class arrest in vitro proliferation of malaria parasites and of mammalian cells. The factors **detg.** the **biol.** activity of the chelators have classically been attributed to the chelators' capacity for binding **iron** and to their ability to traverse membranes as free chelators and as chelator-**iron complexes**. We show in this work that the nature of the chelatable pool of cell **iron** also contributes to the susceptibility of cells to **iron** chelators. A class of N-terminal (Nt) derivs. of desferrioxamine (DFO), (Nt-DFO), is shown here to differentially affect growth and replication of intraerythrocytic parasites (*Plasmodium falciparum*). Methyl-anthranilic DFO (MADFO), the relatively less **hydrophilic** member of the Nt-DFOs series, reduced parasite proliferation (48 h test) with an IC50 of 4  $\pm$  1  $\mu$ M and mammalian cell (K562 and HepG2) proliferation with an IC50  $>$  100  $\mu$ M. On the other hand, the more **hydrophilic** Nt-free DFO, displayed IC50 values of 21  $\pm$  5  $\mu$ M for parasites and 7  $\pm$  1  $\mu$ M for mammalian cells. The selective antiparasitic activity of MA-DFO, as reflected in the speed of action and IC50 values on cell proliferation, is attributed primarily to membrane permeation and **iron(III)** binding properties of the drug. In contrast, the relatively low antiproliferative activity of the more permeant MA-DFO on mammalian cells, resulted from MA-DFO's reduced capacity for scavenging intracellular **iron**. This is apparent from MA-DFO reduced effects on: (1) the chelatable **iron(II)** pool that is assocd. with the cell cytosol; (2) the cell chelator-extractable **iron**, and (3) cell ferritin levels. The potent antimalarial efficacy and **biol.** selectivity of MA-DFO relative to the parent DFO, is of importance for improved design of chemotherapeutic agents.

L26 ANSWER 8 OF 13 HCAPLUS COPYRIGHT 2001 ACS  
AN 1996:223259 HCAPLUS  
DN 124:311520  
TI Influence of specimen preparation on the identification of phospholipids by the phospholipase A2-**gold** method in mineralizing cartilage and bone  
AU Zini, N.; Sabatelli, P.; Silvestrini, G.; Bonucci, E.; Maraldi, N. M.  
CS Inst. of Citomorfologia, C.N.R., Bologna, I-40136, Italy  
SO Histochem. Cell Biol. (1996), 105(4), 283-96  
CODEN: HCBIFP  
DT Journal  
LA English  
AB The role of phospholipids in biol. mineralization has been hypothesized but not fully elucidated. To identify phospholipids at the ultrastructural level in the mineralizing extracellular matrix, rat epiphyseal cartilage and metaphyseal bone were labeled with the phospholipase A2 (PLA2)-**gold** method. The specificity and efficiency of phospholipid **detection** were evaluated by postembedding labeling of sections from epoxy-or **hydrophilic** resin-embedded samples and by preembedding labeling of cryosectioned samples. The efficiency of the labeling was higher in cryosections than in **hydrophilic** resin-embedded specimens, while lower efficiency was found in epoxy resin-embedded samples. A 2-6-fold increase of the labeling d. in calcified with respect to uncalcified areas of cartilage and bone was found, depending on the specimen prepn. used. The labeling intensity was significantly higher at the periphery of the calcifying nodules in the epiphyseal cartilage matrix and in the calcifying osteoid, while the fully calcified bone matrix presented a weak labeling. Matrix vesicles, which are considered a possible source of extracellular phospholipids, appeared labeled in cryosections and epoxy resin-embedded samples after a preincubation with PLA2, which also increased the labeling of the intracellular membranes. The localization of phospholipids in the areas of initial mineralization suggests some hypotheses on the possible involvement of these mols. in the mineral phase deposition process.

L26 ANSWER 9 OF 13 HCAPLUS COPYRIGHT 2001 ACS  
AN 1995:499552 HCAPLUS  
DN 122:263967  
TI Effects of .kappa.-casein glycosylation on heat stability of milk  
AU Robitaille, Gilles; Ayers, Carolyn  
CS Department of Animal Science, McGill University, Ste Anne de Bellevue,  
PQ, H9X 1C0, Can.  
SO Food Res. Int. (1995), 28(1), 17-21  
CODEN: FORIEU; ISSN: 0963-9969  
DT Journal  
LA English  
AB A study was conducted to **det.** the relation between the degree of glycosylation of .kappa.-casein (CN) and heat stability of milk at 140.degree. between pH 6.2 and 6.9. Morning milk samples from individual Holstein cows in mid-lactation were collected and **analyzed.** In the first series of expts., the heat clotting time vs. pH (HCT-pH) curves were **detd.** for 37 individual milk **samples** having various degrees of glycosylation of CN, estd. through the N-acetylneuraminic acid (NANA) content in .mu.g/mg of CN (NANA/k-CN). The mean NANA/CN, HCTmax, and HCTmin were 50.3 .+- . 22.3 .mu.g/mg, 17.4 .+- . 1.2 min, and 3.3 .+- . 0.7 min, resp. The statistical **anal.** showed that the variations in the degree of glycosylation of CN in normal milk did not significantly affect the heat stability parameters. The effect of NANA depletion on the HCT-pH profile was tested in the second series of expts. HCT-pH profiles of 14 individual milk samples, untreated and neuraminidase-treated to extensively remove NANA assocd. with CN, were compared. The av. NANA/CN before treatment, the HCTmax, and HCTmin were 78.3 .+- . 24.9 .mu.g/mg, 21.4 .+- . 1.5 min, and 3.6 .+- . 0.8 min, resp. As no effect of the desialylation was obsd. for HCTmin and pH1 and as the effect on HCTmax, although significant, was very low (0.7 min on av.), these results indicate that the charges and the extent of **hydrophilicity** of the heat-induced CN/.beta.-LG **complexes** are not the crucial factors for the prodn. of CN depleted micelles upon heating and that the glycosylation of CN does not affect its heat-induced interaction with .beta.-LG.

L26 ANSWER 10 OF 13 HCAPLUS COPYRIGHT 2001 ACS  
AN 1995:337332 HCAPLUS  
DN 122:126798  
TI Phase Behavior of a Lipid/Polymer-Lipid Mixture in Aqueous Medium  
AU Hristova, Kalina; Needham, David  
CS Department of Mechanical Engineering and Materials Science, Duke  
University, Durham, NC, 27708, USA  
SO Macromolecules (1995), 28(4), 991-1002  
CODEN: MAMOBX; ISSN: 0024-9297  
DT Journal  
LA English  
AB The phase behavior of a mixt. of bilayer forming lipids and  
polymer-lipids  
(lipids with covalently attached polymer to their **hydrophilic**  
moieties) in excess water is studied theor. The mixt. is predicted to  
exhibit **complex** phase behavior for polymer mol. wts. 2000 and  
5000, depending on the concn. (fraction) of polymer-lipids in the lipid  
mixt. The bilayer is characterized by a maximal concn. nsat (satn.  
limit)  
of polymer-lipids that it can incorporate, as **detd.** by its  
**material** properties (elastic modulus of area expansion and crit.  
area expansion). At a different concn. ntr, which we call the thermodyn.  
crossover, micelle formation becomes energetically favorable over bilayer  
formation. We show that for DSPC and SOPC bilayers ntr < nsat. Increase  
of the polymer-lipid concn. above ntr **leads** to a gradual  
transition from a bilayer to a micellar phase; bilayers and micelles can  
coexist. In the transition region the polymer-lipid concn. is higher in  
the micellar phase than in the coexisting bilayer.

L26 ANSWER 11 OF 13 HCAPLUS COPYRIGHT 2001 ACS  
AN 1995:19679 HCAPLUS  
DN 122:45125  
TI Metal ion capillary electrophoresis with direct UV **detection**.  
Effect of a charged surfactant on the migration behavior of metal  
chelates  
AU Timerbaev, A. R.; Semenova, O. P.; Jandik, P.; Bonn, G. K.  
CS Department of Analytical Chemistry, Johannes Kepler University, Linz,  
A-4040, Austria  
SO J. Chromatogr., A (1994), 671(1-2), 419-27  
CODEN: JCRAEY  
DT Journal  
LA English  
AB The migration behavior of anionic metal 4-(2-pyridylazo)resorcinol (PAR)  
and Arsenazo III **complexes** was investigated in capillary  
electrophoresis (CE) using micellar solns. of sodium dodecyl sulfate.  
The  
sepn. mechanism of arsenazo **complexes** is governed by the  
electrophoresis in the bulk carrier electrolyte without any observable  
interaction with the micellar phase. For less **hydrophilic** PAR  
**complexes**, the resoln. can be addnl. explained in terms of  
differential partitioning into the micelle. It was also found that  
ion-pair formation between anionic solutes and the cationic component of  
the electrophoretic buffer contributes to the retention mechanism and  
permits the sepn. of closely migrating PAR **complexes**. Both  
chelating systems have been applied to the CE sepn. and **detn.** of  
various metal ions with enhanced selectivity and sensitivity relative to  
previously reported metal **complexation** CE techniques.  
Application to the **anal.** of **complex sample**  
matrixes, contg. high levels of acids and **complexing** agents, was  
demonstrated.

L26 ANSWER 12 OF 13 HCAPLUS COPYRIGHT 2001 ACS  
AN 1984:583039 HCAPLUS  
DN 101:183039  
TI High-frequency inductively coupled plasma emission spectrometer and its  
use  
PA Asahi Glass Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 4 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 59090033	A2	19840524	JP 1982-199671	19821116
AB	Title app. has a sample introduction system made of HF-resistant material whose surface (contacting the atomized sample) is <b>hydrophilic</b> . Sample solns. in HF can be thus <b>analyzed</b> with good reproducibility. Thus, the surface (contacting the sample) of the sample introduction system of a conventional app. was dipped in Tetra-etch (alkali metal-arom. <b>complex</b> soln.; Junkosha Co.) and then in dil. HCl, washed, and dried. The <b>analyzer</b> equipped with the treated system for sample introduction gave good reproducibility when <b>analyzing</b> aq. HF solns. of borosilicate glass.				

L26 ANSWER 13 OF 13 HCAPLUS COPYRIGHT 2001 ACS  
AN 1984:477962 HCAPLUS  
DN 101:77962  
TI Surface chloride salt formation on space shuttle exhaust alumina  
AU Cofer, W. R., III; Pellett, G. L.; Sebacher, D. I.; Wakelyn, N. T.  
CS Langley Res. Cent., Natl. Aeronaut. Space Adm., Hampton, VA, 23665, USA  
SO J. Geophys. Res., D: Atmos. (1984), 89(D2), 2535-40  
CODEN: JGRDE3  
DT Journal  
LA English  
AB Aluminum oxide samples from the exhaust of space shuttle launches STS-1, STS-4, STS-5, and STS-6 were collected from surfaces on or around the launch pad **complex** and chem. **analyzed**. The water-sol. fraction, pH, acid-sol. fraction, and insol. fraction were **detd.** for each **sample**. X-ray diffraction **anal.** of the insol. particulate fractions (always >72%, of the sample wt.) indicated that these fractions were .alpha.-Al<sub>2</sub>O<sub>3</sub> and thus confirmed that the 6 **samples analyzed** were space shuttle alumina. Electron microscopic examn. of the particles revealed spherical morphologies with diams. of 1-25 .mu.m. Ca, **Mg**, K, NH<sub>4</sub><sup>+</sup> and Na were measured as indicators of the amt. of ground debris or sea-salt particles incorporated into the samples. All **samples analyzed** contained significantly elevated amts. of water-sol. Cl<sup>-</sup> and Al<sup>3+</sup>. Results from these **analyses**, and from lab. expts. in which calcination-produced aluminas were exposed to gaseous HCl and H<sub>2</sub>O mixts. from room temp. to 220.degree., suggest that the surface of the shuttle exhaust alumina particulates should be viewed as having more of the characteristics and properties (e.g., **hydrophilicity**) of aluminum chlorides and oxychlorides than of aluminum oxides. Since the collection techniques were crude and strongly biased toward the collection of large particles, similar surface **analyses** of particles collected from high-altitude shuttle exhaust plumes are needed.

=> d his

(FILE 'HOME' ENTERED AT 10:15:10 ON 26 JAN 2001)

FILE 'HCAPLUS' ENTERED AT 10:15:22 ON 26 JAN 2001

L1 59 S ELAISSARI A?/AU  
L2 13 S DURACHER D?/AU  
L3 186 S PICHOT C?/AU  
L4 63 S MALLET F?/AU  
L5 772 S NOVELLI?/AU  
L6 1 S L1 AND L2 AND L3 AND L4 AND L5  
SELECT RN L6 1

FILE 'REGISTRY' ENTERED AT 10:16:28 ON 26 JAN 2001

L7 17 S E1-17

FILE 'HCAPLUS' ENTERED AT 10:16:42 ON 26 JAN 2001

L8 1 S L6 AND L7  
L9 54 S (DETN OR DETERMIN? OR ANALY? OR DETECTION) (4A) (SAMPLE OR  
BIOL  
L10 1464 S (DETN OR DETERMIN? OR ANALY? OR DETECTION) AND COMPLEX? AND  
H  
L11 157 S L10 AND (TRANSITION METAL OR ZINC OR ZN OR NICKEL OR NI OR  
CO  
L12 198 S L10 AND (COBALT OR CO OR IRON OR FE)  
L13 104 S L10 AND (MAGNESIUM OR MG OR MANGANESE OR MN)  
L14 93 S L10 AND (LEAD OR PB OR PALLADIUM OR PD)  
L15 49 S L10 AND (PLATINUM OR PT OR GOLD OR AU)  
L16 414 S L11-L15

FILE 'REGISTRY' ENTERED AT 11:08:29 ON 26 JAN 2001

FILE 'HCAPLUS' ENTERED AT 11:08:34 ON 26 JAN 2001

SET SMARTSELECT ON  
L17 SEL L16 1- RN : 2595 TERMS  
SET SMARTSELECT OFF

FILE 'REGISTRY' ENTERED AT 11:09:03 ON 26 JAN 2001

L18 2591 S L17  
L19 242 S L18 AND PMS/CI

FILE 'HCAPLUS' ENTERED AT 11:11:01 ON 26 JAN 2001

L20 113 S (L11-L15) AND L19  
E DETER/CV  
E DETERMIN/CV  
E DETERMIN/IT  
E DETERMINATION/IT  
L21 798794 S DETERMINATION/IT  
L22 21 S L20 AND L21  
L23 55 S L20 AND (ANALY? OR DETN OR DETECT?)/IT  
L24 55 S L22 OR L23  
L25 17 S L9 AND (L11-L15)  
L26 13 S L25 NOT L24

GABEL

09/403085

FILE 'WPIDS' ENTERED AT 11:52:02 ON 26 JAN 2001

L27	36 S L9
L28	8 S L27 AND (TRANSITION METAL OR ZINC OR ZN OR NICKEL OR NI )
L29	10 S L27 AND ((COBALT OR CO OR IRON OR FE OR COPPER OR CU))
L30	5 S L27 AND (MAGNESIUM OR MG OR MANGANESE OR MN)
L31	5 S L27 AND (LEAD OR PB OR PALLADIUM OR PD)
L32	5 S L27 AND (PLATINUM OR PT OR GOLD OR AU)
L33	18 S L28-L32
L34	12 S L33 AND (POLY? OR POLYMER?)

L34 ANSWER 1 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD  
AN 2000-587199 [55] WPIDS  
CR 2000-587198 [48]  
DNN N2000-434582 DNC C2000-175044  
TI Capillary electrophoretic carrier material having different derivatizations or functionalities on the pores and outer surfaces, allowing quantitative removal of matrix components during **analysis of biological samples**.  
DC A89 B04 D16 J04 S03  
IN MUSCATE-MAGNUSSEN, A  
PA (EVOT-N) EVOTEC BIOSYSTEMS AG  
CYC 90  
PI WO 2000050887 A1 20000831 (200055)\* DE 71p  
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL  
OA PT SD SE SL SZ TZ UG ZW  
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES  
FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS  
LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL  
TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW  
AU 2000031578 A 20000914 (200063)  
ADT WO 2000050887 A1 WO 2000-EP1393 20000221; AU 2000031578 A AU 2000-31578 20000221  
FDT AU 2000031578 A Based on WO 200050887  
PRAI DE 2000-10004673 20000203; DE 1999-19907296 19990222  
AN 2000-587199 [55] WPIDS  
CR 2000-587198 [48]  
AB WO 200050887 A UPAB: 20001205  
NOVELTY - The use of a porous carrier material (I) for capillary electrochromatography (CEC), is new. The outer surface and pore surface regions of (I) have different derivatizations and/or functionalities.  
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for:  
(1) CEC apparatus comprising:  
(a) a carrier material holding unit, having inlet(s) and outlet(s) and filled with (I);  
(b) at least two containers for mobile phase; and  
(c) at least one potential source; and  
(2) a CEC process comprising:  
(a) applying a **sample**, consisting of **analyte** and **sample matrix**, to apparatus as in (1);  
(b) applying an electrical potential to create an electro-osmotic flux by applying a washing buffer;  
(c) eluting the sample matrix;  
(d) applying a transfer buffer; and  
(e) eluting the analyte.  
USE - (I) is useful in capillary electrochromatographic **analysis**, especially of **complex biological samples** (e.g. hemolyzed blood, plasma, serum, milk, saliva, fermentation broths, urine, supernatants of cell cultures, foods or tissue homogenates or natural extracts) which contain a large number of matrix components (e.g. proteins and salts) as well as the analytes. The assays are used e.g. in therapy control, determination of natural body components or high throughput scanning of potential drugs. Examples relate to the

separation of analyte mixtures of thiourea, acetaminophen, benzocaine, propranolol and quinine; and separation of benzocaine from rat serum or dog plasma.

ADVANTAGE - (I) allows virtually quantitative separation of analytes from other components of the sample, especially proteins and other macromolecules. The analyte can be concentrated in the upper edge of the column and quantitatively separated independently of the matrix. Repeated direct injection of untreated samples into the column is possible. The system has high separation performance, sensitivity, accuracy, signal-to-noise ratio and reproducibility (with respect to baseline, retention time and resolution). Automation is possible, and a large number

of assays can be carried out continuously at low cost.

DESCRIPTION OF DRAWING(S) - The figure shows a capillary electrochromatographic column system, comprising a single column for sample processing and/or separation.

Column 30

Carrier material 60

Container 90

Mobile phase 120

Potential source 10

Detector 150

Dwg.1/13

L34 ANSWER 2 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD  
AN 2000-514827 [46] WPIDS  
DNC C2000-153615  
TI Biosensor for measuring an **analyte** in a **biological**  
fluid e.g. for measuring alanine aminotransferase concentration in whole  
blood samples to diagnose liver disorders, comprises a smooth working  
electrode and an anticoagulant.  
DC B04 D16 J04  
IN COUSINEAU, K L; HENNING, T P  
PA (ABBO) ABBOTT LAB  
CYC 20  
PI WO 2000044930 A1 20000803 (200046)\* EN 63p  
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE  
W: CA JP  
ADT WO 2000044930 A1 WO 1999-US30828 19991227  
PRAI US 1999-239200 19990128  
AN 2000-514827 [46] WPIDS  
AB WO 200044930 A UPAB: 20000921  
NOVELTY - A biosensor for determining the concentration of an analyte  
(e.g. alanine aminotransferase (ALT)) in biological fluid samples using a  
smooth working electrode, to enable determination of low concentrations,  
and including an anticoagulant, to allow whole blood samples to be used,  
is new.  
DETAILED DESCRIPTION - The biosensor comprises:  
(a) a base layer to provide mechanical support for the other  
layers;  
(b) a detecting layer comprising a reference electrode and a working  
electrode, the surface of the electrically conductive portion of the  
working electrode being sufficiently smooth to enable determination of  
the concentration of an analyte present in a low concentration (optionally  
lower than 1 mM);  
(c) a layer overlying the electrodes comprising dried reagent; and  
(d) an anticoagulant located so that it prevents the **sample**  
from coagulating during the **determination**.  
An INDEPENDENT CLAIM is also included for a method of determining  
the concentration of an **analyte** in a **sample** of  
**biological** fluid, comprising:  
(1) providing the biosensor;  
(2) introducing a biological fluid to the biosensor;  
(3) allowing the fluid to dissolve dried reagents;  
(4) allowing a chemical reaction to occur at the detecting layer;  
and  
(5) reading the output of the chemical reaction.  
USE - The biosensor is used to determine the concentration of an  
**analyte** in a **sample** of **biological** fluid e.g.  
to measure alanine aminotransferase (ALT) in whole blood samples  
(claimed), by introducing the sample so that the dried reagents are  
dissolved and a chemical reaction occurs at the detecting layer, and  
reading the output of the reaction to determine the analyte concentration  
(claimed). ALT measurement is useful to help diagnose and monitor liver  
disorders/damage e.g. from hepatitis, toxins or adverse reactions to  
drugs, and the biosensor enables self-monitoring by patients without the

need to travel to an assay center.

ADVANTAGE - An anticoagulant is included which prevents blood samples

from clotting, enabling whole blood (e.g. taken from the fingertip) to be used, and eliminating the need for personnel trained in drawing blood and for blood processing to obtain serum or plasma. The biosensor also uses a smooth working electrode, enabling determination of an analyte present in a low concentration. It thus enables self-monitoring by patients, not previously possible for ALT because of the **complexity** of existing assays and because it is normally present in low concentrations in the blood, making accurate determination difficult.

DESCRIPTION OF DRAWING(S) - The figure shows an exploded view of a biosensor.

- multiple-layer element 100
- detecting layer 102
- working electrode 104
- reference electrode 106
- base layer 108
  - reagent layer optionally containing anticoagulant 114
  - fluid-transporting layer 116
  - sample application zone 118
  - covering layer 120

Dwg.1A/8

L34 ANSWER 3 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD  
AN 2000-451739 [39] WPIDS  
DNN N2000-336368 DNC C2000-137532  
TI Multilayered material used to e.g. capture molecules including antibodies and enzymes in assays, to isolate molecules, to **determine analyte** in test **samples** and to **determine** binding affinity.  
DC A89 B04 C07 D16 E19 J04 K02 P42 P73 S03  
IN ABBOTT, N; DUBROVSKY, T B; HOU, Z; STROEVE, P  
PA (REGC) UNIV CALIFORNIA  
CYC 20  
PI WO 2000032044 A1 20000608 (200039)\* EN 14p  
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE  
W: CA JP  
ADT WO 2000032044 A1 WO 1999-US28827 19991203  
PRAI US 1998-205750 19981204  
AN 2000-451739 [39] WPIDS  
AB WO 200032044 A UPAB: 20000818  
NOVELTY - Multilayered material (I) comprising a particulate substrate, metal film layered onto the substrate, and an organic layer attached to the metal film.  
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:  
(1) a multilayer material, comprising a silica substrate, a metal film layered onto the substrate, an organic layer attached to the metal film, and a recognition moiety attached to the organic layer, and or metal film;  
(2) a multilayer material comprising a silica substrate, a metal film layered onto the substrate, and an organosulfur layer attached to the **gold** film, with a recognition moiety attached to it;  
(3) capturing a molecule, comprising contacting the particle with (I) having a recognition moiety attached to the organic layer or metal film, the recognition moiety associates with the molecule, forming a **complex** of the captured molecule;  
(4) purifying a molecule from a mixture of molecules by using the method of (3);  
(5) a device for capturing a molecule, comprising (I) having a recognition moiety attached to the organic layer or metal film, and means to contain or support the multilayer material;  
(6) isolating a molecule from other molecules by affinity chromatography, comprising contacting the molecule with (I) having a recognition moiety attached to the organic layer and/or metal film, forming a **complex** between the recognition moieties and the molecule, and washing the **complexes** with a solvent for the other molecules;  
(7) determining the presence or amount of an **analyte** in a **sample**, comprising:  
(a) contacting the sample with (I) having a recognition moiety attached to the organic layer and/or metal film;  
(b) forming a **complex** between the recognition moiety and at least a portion of the analyte; and

(c) detecting the analyte;  
(8) detecting or quantifying binding affinity between a binding partner and a recognition moiety, and/or a second binding partner, comprising:  
(a) contacting the first binding partner, or first and second binding partner **complex**, with (I), having a recognition moiety attached to the organic layer and/or metal film;  
(b) forming particle-first binding partner **complexes**; and  
(c) measuring the affinity;  
(9) producing a multilayered particle, comprising contacting a particulate substrate with a metal plating solution to form a particle having a metal film layered on it, and contacting the particle with organic molecules that associate with the metal film;  
(10) isolating a molecule from a second molecule, by size exclusion chromatography, comprising contacting the molecules with (I), where the organic layer is a **hydrophilic polymer**, and contacting the mixture with a solvent for both molecules; and  
(11) assembling a compound, comprising adding a first component of the compound to (I), adding a second component of the compound, and reacting the two components.  
USE - The materials are used to capture molecules such as antibodies, antigens, carbohydrates, nucleic acids, enzymes, enzyme substrates and/or peptides in assays including competitive, sandwich and/or agglutination assays (claimed). The methods can be used to isolate molecules from other molecules, including biomolecules, by affinity chromatography and to determine the presence or amount of **analyte** in a test **sample** (claimed). The methods can also be used to detect or quantify binding affinity between a first binding partner and recognition group and/or second binding partner, to produce multilayered particles, and to isolate a first molecule from a second molecule by size-exclusion chromatography and to assemble compounds and to assemble arrays of compounds (claimed). They may be used in ion-exchange, ion-selective ion exchange, assays, affinity dialysis and size exclusion dialysis, as supports in solid-phase synthesis, combinatorial synthesis and screening of compound libraries. They may be used to screen drugs for their ability to interact with chosen analytes including non-steroidal anti-inflammatory drugs, steroidal anti-inflammatory drugs, antihistaminic drugs, antitussives, antipruritics, anticholinergics, anti-emetics and anti-nauseants, anorexics, central stimulants, antiarrhythmics, beta-adrenergic blockers, cardiotonics, antihypertensives, diuretics, vasodilators, vasoconstrictors, antiulcer drugs, anesthetics, antidepressants, tranquilizers and sedatives, antipsychotics, antimicrobials, antineoplastics, hormones, muscle relaxants, antispasmodics, bone-active drugs, endocrine-modulators, contraceptives, modulators of diabetes, calcitonins, thyroid agents, anti-thyroid agents, antihyperprolactinemics, hormone suppressors, oxytocics, immunomodulators, histamine H2 antagonists, immunosuppressants, or anti-inflammatories. They are used to recognize analytes such as proteins, peptides, nucleic acids,

saccharides or small molecules such as drugs, herbicides, pesticides, industrial chemicals or agents of war.

ADVANTAGE - The particulate materials have a substantially homogeneous, easily assembled organic layer that does not adventitiously and/or non-specifically bind charged species. They can be used as free-flowing powders, adsorbed onto plates or other substrates to form devices analogous to thin-layer chromatography plates or incorporated into aerogels.  
Dwg. 0/2

L34 ANSWER 4 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD  
 AN 2000-442107 [38] WPIDS  
 DNN N2000-329954 DNC C2000-134319  
 TI Multilayered porous material comprises a porous substrate, metal film and recognition moiety in an organic layer and is useful for ion-selective ion-exchange and affinity and size exclusion dialysis.  
 DC A18 A25 A96 B07 C07 D16 J04 P73 S03  
 IN ABBOTT, N; HOU, Z; STROEVE, P  
 PA (REGC) UNIV CALIFORNIA  
 CYC 20  
 PI WO 2000034033 A1 20000615 (200038)\* EN 98p  
 RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE  
 W: CA JP  
 ADT WO 2000034033 A1 WO 1999-US27496 19991119  
 PRAI US 1998-206084 19981204  
 AN 2000-442107 [38] WPIDS  
 AB WO 200034033 A UPAB: 20000811  
 NOVELTY - A multilayered porous material comprises a porous substrate, a metal film adhered onto the substrate, and an organic layer including a recognition moiety attached to the metal film.  
 DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:  
 (1) a multilayered porous material comprising a **polycarbonate** track-etched substrate, a metal film adhered to the substrate and an organosulfur layer including a recognition moiety attached to the metal film;  
 (2) an ion exchange medium comprising a porous substrate, a metal film adhered to the substrate, and an organic layer including a recognition moiety that interacts with the ion attached to the metal film;  
 (3) removing an ion from a fluid, comprising contacting the fluid with the ion exchange medium of (2);  
 (4) isolating a molecule from other molecules by affinity dialysis, comprising contacting the molecule with the novel multilayered porous material, and forming a **complex** between the recognition moiety and the molecule;  
 (5) isolating one molecule from another by size exclusion dialysis, comprising contacting the mixture with the multilayer porous material allowing the first molecule through the material while the second is retained;  
 (6) determining the presence or amount of an analyte, comprising forming a **complex** between a recognition moiety on the novel multilayered porous material and an **analyte** in a test **sample**, and detecting the **analyte**;  
 (7) a drug delivery device, comprising a drug moiety reversibly associated with a recognition moiety on the novel multilayered material;  
 (8) producing a multilayered porous material comprising contacting a porous substrate with a metal plating solution, and contacting this with organic molecules which associate with the metal film.  
 USE - The multilayered porous material is useful for ion-exchange, and ion-selective ion-exchange, assay methods, affinity dialysis and size exclusion dialysis (claimed). The material may also be used to remove ions from a fluid, and in drug delivery devices (claimed).

GABEL

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Dwg. 0/5

L34 ANSWER 5 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD  
 AN 2000-258992 [23] WPIDS  
 CR 2000-317371 [24]  
 DNN N2000-192663 DNC C2000-079365  
 TI Composition used for detecting **biological** groups e.g. target **analyte** comprises semiconductor nanocrystal core associated with first member of binding pair.  
 DC B04 D16 L03 S03  
 IN BAWENDI, M G; MIKULEC, F V; SUNDAR, V C  
 PA (MASI) MASSACHUSETTS INST TECHNOLOGY  
 CYC 25  
 PI EP 990903 A1 20000405 (200023)\* EN 39p  
 R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT  
 RO SE SI  
 GB 2342651 A 20000419 (200023)  
 ADT EP 990903 A1 EP 1999-307393 19990917; GB 2342651 A GB 1999-22072 19990917  
 PRAI US 1998-160454 19980924; US 1998-100947 19980918  
 AN 2000-258992 [23] WPIDS  
 CR 2000-317371 [24]  
 AB EP 990903 A UPAB: 20000725  
 NOVELTY - Composition (A) comprises semiconductor nanocrystal core associated with a first member of a binding pair.  
 DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:  
 (1) detecting target analyte which is a second member of the binding pair in a sample by admixing the sample with (A) and detecting binding of the first member of the binding pair and second member of the binding pair  
 by monitoring the spectral emission of the sample, where the intensity and/or wavelength of the emission is related to the presence and/or amount of **analyte** in the **sample**;  
 (2) labelling a biological molecule or event with a fluorescent label  
 comprising a semiconductor nanocrystal in which the emission spectrum of the fluorescence is dependent upon the nanocrystal size and  
 (3) controlling the fluorescence emission of a fluorescent group in use in a biological system which comprises selecting a semiconductor nanocrystal having a desired fluorescence emission spectrum and using the selected nanocrystal as the fluorescent group.  
 USE - The semiconductor nanocrystal is used as a fluorescent label in immunochemistry, optionally in immunocytochemistry or in an immunoassay, in DNA sequence analysis, in fluorescence resonance energy transfer in assessing the proximity of two or more biological compounds to each other,  
 in flow cytometry or in a fluorescence activated cell sorter, in a diagnostic method or in biological imaging.  
 ADVANTAGE - A combination of tunability, narrow linewidths and symmetric emission spectra without a tailing region gives high resolution multiply sized nanocrystals and allows simultaneous examination of different **biological** groups e.g. target **analytes** tagged with nanocrystals. The range of excitation wavelengths of the nanocrystals is broad and can be higher in energy than the emission

wavelengths of all available semiconductor nanocrystals, which allows simultaneous excitation of all populations of nanocrystals in a system having distinct emission spectra with a single light source. The nanocrystals are more robust than organic fluorescent dyes and more resistant to photobleaching than organic dyes.

Dwg.0/10

L34 ANSWER 6 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD  
AN 2000-071693 [06] WPIDS  
DNN N2000-056062 DNC C2000-020480  
TI **Detection of biological** molecules using boronate based  
chemical amplification and optical sensors.  
DC B04 P31  
IN DARROW, C B; HARDER, J; LANE, S M; MASTROTOTARO, J J; PEYSER, T A;  
SATCHER, J H; VAN ANTWERP, W P  
PA (MINI-N) MINIMED INC; (REGC) UNIV CALIFORNIA  
CYC 1  
PI US 6002954 A 19991214 (200006)\* 30p  
ADT US 6002954 A Provisional US 1995-7575 19951122, US 1996-749366 19961121  
PRAI US 1995-7575 19951122; US 1996-749366 19961121  
AN 2000-071693 [06] WPIDS  
AB US 6002954 A UPAB: 20000203

NOVELTY - An implantable amplification system comprises a **polymer** matrix and an amplification component within the matrix producing a **polyhydroxylated** analyte signal upon interrogation by an optical system

DETAILED DESCRIPTION - The amplification component requires intramolecular electron transfer for production of the signal and comprises a compound of formula (I):

D1 = dye selected from fluorescent, luminescent and colorimetric dyes;

R1, R3, and R4 = substituents which alter the electronic properties of the groups to which they are attached or are functional groups which can form covalent linkages to the surrounding **polymer** matrix, preferably H, OH, acyl, 1-4C alkoxy, halo, SH, SO<sub>2</sub>H, SO<sub>3</sub>H, SO<sub>2</sub>NH<sub>2</sub>, NO<sub>2</sub>, CN, CO<sub>2</sub>H, 1-12C alkyl, 1-12C alkenyl, 1-12C alkynyl, aryl, arylalkyl, amine; the alkyl, alkenyl, alkynyl, aryl, arylalkyl and amine all being optionally substituted by OH, acyl, aryl, 1-4C alkoxy, halo, thiol, SO<sub>3</sub>H, amine, SO<sub>2</sub>NH<sub>2</sub>, SO<sub>2</sub>H, NO<sub>2</sub>, CN, C(O)NH<sub>2</sub> and/ or COOH ;

R2 = H or 1-4C alkyl;

L1, L2 = linking group with 0-4 contiguous atoms selected from C, N, S, O and P;

Z' = N, S, O or P; and

x = 0 - 4.

INDEPENDENT CLAIMS are also provided for:

(1) a method for quantifying the amount of a **polyhydroxylated** analyte in an individual, comprising:

(a) interrogating a subcutaneously implanted amplification system comprising a **polymer** matrix containing a compound of formula (I) with an energy source to provide an excited amplification system which produces an energy emission corresponding to the amount of **polyhydroxylated** analyte; and

(b) detecting the emission to quantify the amount of **polyhydroxylated** analyte.

(2) a biosensor for measuring the amount of a **polyhydroxylated** analyte in vivo comprising:

(a) an implantable amplification system comprising a **polymer** matrix containing a compound of formula (I); and

(b) an optical system comprising an optical source and a detector which detects the signal.

USE - As a minimally invasive optical sensor for detecting

**polyhydroxylated** compounds such as glucose.

ADVANTAGE - The sensor is able to measure glucose over the entire physiological range, with an accuracy and precision of over 95 %, and a linear dynamic range of at least 200 and a signal to noise ratio of at least 50. It is also easy to use, provides continuous glucose information, does not require a blood sample and is pain free.

Dwg.0/14

L34 ANSWER 7 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD  
AN 1999-528826 [45] WPIDS  
DNN N1999-391762 DNC C1999-155705  
TI Electrochemiluminescence assay, especially for biological substances,  
with  
long measurement period.  
DC B04 D16 J04 S03  
IN EGGER, M; JOSEL, H; PUNZMANN, G  
PA (HOFF) ROCHE DIAGNOSTICS GMBH; (BOEF) BOEHRINGER MANNHEIM GMBH  
CYC 26  
PI DE 19811582 A1 19990923 (199945)\* 11p  
EP 949503 A1 19991013 (199947) DE  
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT  
RO SE SI  
JP 11311607 A 19991109 (200004) 8p  
ADT DE 19811582 A1 DE 1998-19811582 19980317; EP 949503 A1 EP 1999-104897  
19990311; JP 11311607 A JP 1999-72146 19990317  
PRAI DE 1998-19811582 19980317  
AN 1999-528826 [45] WPIDS  
AB DE 19811582 A UPAB: 19991122  
NOVELTY - Detection of an **analyte** in a **sample** is  
performed using a label comprising a metal **complex** containing at  
least one charge carrier and/or at least one **hydrophilic** group.  
DETAILED DESCRIPTION - Detecting an **analyte** in a  
**sample** by electrochemiluminescence comprises using a label  
comprising a metal **complex** containing at least one charge  
carrier and/or at least one **hydrophilic** group and measuring the  
electrochemiluminescence for at least 0.5 seconds.  
An INDEPENDENT CLAIM is also included for detecting an  
**analyte** in a **sample** by electrochemiluminescence,  
comprising:  
(a) providing an electrochemiluminescence device comprising a  
measuring electrode;  
(b) contacting the electrode with a conditioning fluid containing an  
electrochemiluminescence **co**-substrate;  
(c) adjusting the conditions at the electrode so that activated  
**co**-substrate molecules are generated on and/or in the interfacial  
region of the electrode;  
(d) contacting the electrode with a sample containing an  
electrochemiluminescence **co**-substrate and a label comprising a  
metal **complex** containing at least one charge carrier and/or at  
least one **hydrophilic** group;  
(e) applying an electrochemiluminescence-inducing potential to the  
electrode and measuring the electrochemiluminescence; and  
(f) correlating the measured luminescence with the presence or  
amount  
of the **analyte** in the **sample**.  
ACTIVITY - None given.  
MECHANISM OF ACTION - None given.  
USE - For qualitative or quantitative detection of cells, viruses,  
sub-cellular particles, proteins, lipoproteins, glycoproteins, peptides,  
**polypeptides**, nucleic acids, oligosaccharides,  
**polysaccharides**, lipopolysaccharides, cellular metabolites,  
haptens, hormones, drugs, alkaloids, steroids, vitamins, amino acids,

sugars, etc.

ADVANTAGE - The electrochemiluminescence signal is at least 2-5 times that achievable with non-**hydrophilic** ruthenium tris(bipyridyl) labels, allowing cheap semiconductor detectors to be used instead of expensive photo-multiplier tubes, and remains constant for longer, allowing longer measurement periods and providing greater sensitivity. Oxygen quenching and nonspecific adsorption are also reduced.

Dwg.0/3

L34 ANSWER 8 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD  
 AN 1998-568870 [48] WPIDS  
 DNN N1998-442536 DNC C1998-171086  
 TI Isolation and **detection of biological material**  
 - such as antibodies using a **polymeric** capture phase carrying a  
 biological detector.  
 DC A14 A96 B04 D16 S03  
 IN DURACHER, D; ELAISSARI, A; MALLET, F; NOVELLI, R A; PICHOT, C;  
 NOVELLI-ROUSSEAU, A  
 PA (INMR) BIO MERIEUX  
 CYC 83  
 PI WO 9847000 A2 19981022 (199848)\* FR 24p  
 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL  
 OA PT SD SE SZ UG ZW  
 W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE  
 GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG  
 MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG  
 US UZ VN YU ZW  
 FR 2762394 A1 19981023 (199848)  
 AU 9874362 A 19981111 (199912)  
 EP 975968 A2 20000202 (200011) FR  
 R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE  
 ADT WO 9847000 A2 WO 1998-FR772 19980416; FR 2762394 A1 FR 1997-4923  
 19970416;  
 AU 9874362 A AU 1998-74362 19980416; EP 975968 A2 EP 1998-921550  
 19980416,  
 WO 1998-FR772 19980416  
 FDT AU 9874362 A Based on WO 9847000; EP 975968 A2 Based on WO 9847000  
 PRAI FR 1997-4923 19970416  
 AN 1998-568870 [48] WPIDS  
 AB WO 9847000 A UPAB: 19981210  
 A target biological material (A) in a sample is detected by the following  
 process: (A) is contacted with a capture phase (B), in microparticulate  
 or  
 linear form, comprising a first particulate or linear **polymer**  
 having apparent **hydrophilic** character and **complexing**  
 groups linked by **co-ordination** to a first **transition**  
**metal**, which is itself linked to a first biological entity which  
 specifically recognises (A). The **complex** (A:B) is then detected.  
 In a preferred modification of the process, a detection phase (C) is  
 also used comprising, in microparticulate or linear form, a second  
 particulate or linear **polymer** having apparent  
**hydrophilic** character and second **complexing** groups,  
 these being **co-ordinated** to a second **transition**  
**metal** linked to a second biological entity capable of recognising  
 the target (A) specifically, and a marker.  
 The capture phase (B) is also claimed per se, as is the detection  
 phase (C).  
 USE - The target material may be proteic or glycoproteic, such as an  
 antigen, haptene, antibody, protein, peptide, enzyme, substrate, and  
 their  
 fragments, or it may be nucleic, such as DNA, RNA, a nucleic acid  
 fragment, a hormone, etc. The detection of antibodies using p24 or gp140  
 proteins of HIV is specifically mentioned.

GABEL

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Dwg. 0/3

L34 ANSWER 9 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD  
 AN 1997-121144 [12] WPIDS  
 DNN N1997-099709 DNC C1997-039285  
 TI Novel electron conducting compsn. in paste form - comprises conducting paste, electrodes, sensors and electrochemical reactors.  
 DC A85 B04 D16 J04 L03 S03  
 IN DOMINGUEZ, CANAS E; KATAKIS, I; NARVAEZ, GARCIA A; PARELLADA, FERRER J  
 PA (UYRO-N) UNIV ROVIRA I VIRGILI SERVEI TECNOLOGIA; (UYAL-N) UNIV ALCALA DE HENARES; (UYRO-N) UNIV ROVIRA Y VIRGILI  
 CYC 5  
 PI EP 757246 A2 19970205 (199712)\* EN 20p  
 R: DE FR GB SE  
 EP 757246 A3 19970502 (199729)  
 ES 2103197 A1 19970816 (199740)  
 ES 2103197 B1 19980116 (199810)  
 ADT EP 757246 A2 EP 1996-500113 19960802; EP 757246 A3 EP 1996-500113 19960802; ES 2103197 A1 ES 1995-1590 19950804; ES 2103197 B1 ES 1995-1590 19950804  
 PRAI ES 1995-1590 19950804  
 AN 1997-121144 [12] WPIDS  
 AB EP 757246 A UPAB: 19970320  
 An electron conducting compsn. in paste form comprises a particulate conducting material that maintains its integrity by a **polymeric** binding material included in a quantity of at least 10% total wt. of the compsn. in a matrix that may also be modified to contain chemical or biochemical recognition elements and/or electrochemical mediators and opt.  
 a crosslinker. The crosslinking agent is selected from e.g. bi- or multi-functional substances, hetero- or homofunctional, that can easily react with the binding **polymer** functionalities in organic or aq. solvents. The functionalities include bi- or multifunctional aziridines, di- or multi-epoxides, etc. The electrochemical redox mediator is selected from e.g. metal **complexes**, low mol. wt. electron transfer proteins, quinoids, phenazine-type substances and redox **polymers**, having a redox potential of -0.7 and 0.5V vs the saturated calomel electrode. The chemical recognition element is an ion selective cocktail or a metal **complex** capable of catalysing analyte reactions. The biorecognition element is e.g. antibodies, hormones, enzymes, oligo and **polynucleotides**, cellular receptors and pref. oxidoreductase enzyme. The element is modified covalently with a mediator, or with gps. giving stability or cross-linking functionality or with fluorescent or enzymatic labels.  
 The **polymer** is **hydrophilic**, soluble in water or aq. solvents, mol. wt. is 10-500 kDa, it is a **polyethyleneimine** branched or linear, opt. derivatised, or a **poly(vinylpyridine)** **polymer** opt. quaternised with amine gps. It can also be a hydrophobic **polymer** opt. contain functionalities that increase hydrophobicity and opt. contg. a protein or **polypeptide** soluble in aq. solvents and water (mol. wt. 10-1000 kDa). The **hydrophilic polymer** should allow crosslinking of the **polymeric** binding substance and conducting phase (e.g. amines, carboxylic acids, alcohols, anhydrides and aldehydes), etc. The particulate conducting material is selected from (A) a carbon-based material, opt. modified to

include functionalities; (B) metal particles selected from gps. IB and VIII of the periodic table, (pref. silver, **gold, iron, cobalt, nickel** and/or **platinum**), or metallic oxide particles selected from ruthenium oxide and/or tin oxide; (C) metalised carbon particles or (D) combinations of A-C.

USE - The compsn. is used for detection and analysis of analytes, for monitoring of analytes and in the electrochemical prodn. of various prods. and synthesis intermediates. The electrodes and sensors can be used to detect and quantify cpds. and ions in **samples** and has **analytical** applications in basic research and clinical diagnosis and environmental and fermentation monitoring. The conducting paste can be used for processing of solid-phase electro-extn., in the electrochemical prodn. of chemical prods. and in the control of industrial fermentations.

ADVANTAGE - The method is a low-cost alternative to other techniques.

It is reliable and convenient and achieves the high current density needed. The electrodes are stable under operating and storage conditions.

Dwg.1a/9

L34 ANSWER 10 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD  
AN 1994-007718 [01] WPIDS  
DNN N1994-006230  
TI Antibody-based bio-sensor for on-line real-time measurement - has immobilised binding partner consisting of antibody or **polypeptide** antigen binding fragment and support, and detects change in surface plasmon resonance refractive index..  
DC S03  
IN MALMQVIST, M; WINTER, G P  
PA (PHAA) PHARMACIA BIOSENSOR AB; (BIAC-N) BIACORE AB  
CYC 19  
PI WO 9325909 A1 19931223 (199401)\* EN 26p  
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE  
W: JP US  
EP 645015 A1 19950329 (199517) EN 2p  
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE  
JP 07507865 W 19950831 (199543) 1p  
EP 645015 B1 19970305 (199714) EN 15p  
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE  
DE 69308554 E 19970410 (199720)  
US 5965456 A 19991012 (199949)  
ADT WO 9325909 A1 WO 1993-GB1242 19930611; EP 645015 A1 EP 1993-913345 19930611, WO 1993-GB1242 19930611; JP 07507865 W WO 1993-GB1242 19930611, JP 1994-501280 19930611; EP 645015 B1 EP 1993-913345 19930611, WO 1993-GB1242 19930611; DE 69308554 E DE 1993-608554 19930611, EP 1993-913345 19930611, WO 1993-GB1242 19930611; US 5965456 A Cont of WO 1993-GB1242 19930611, Cont of US 1995-351300 19950227, US 1997-848175 19970429  
FDT EP 645015 A1 Based on WO 9325909; JP 07507865 W Based on WO 9325909; EP 645015 B1 Based on WO 9325909; DE 69308554 E Based on EP 645015, Based on WO 9325909  
PRAI GB 1992-12416 19920611  
AN 1994-007718 [01] WPIDS  
AB WO 9325909 A UPAB: 19991201  
The appts. includes an LED (10) transmitting light through a collimator (12), a focussing lens (14) and a prism (16) to the surface of a sensor chip (18). Light exits the prism and passes through an objective lens (20), cylindrical lens (22), and a plane polariser (24) before falling on a photodetector (26).  
In operation, the sensor chip acts as an immobilised binding partner comprising a glass support coated with a thin **gold** film. A flexible **hydrophilic polymer** is bound to the **gold** and extends into the flow channel. An antibody is coupled to the **polymer** and reacts with the **analyte** of interest in the **sample** passing through the flow channel.  
ADVANTAGE - Detects quantitatively analyte in concn. range 10-200 nm with reversible fast response time of about 25 seconds.  
Dwg.1a/8  
ABEQ EP 645015 B UPAB: 19970407  
Apparatus for detecting the presence in solution of an **analyte** of interest in a **sample**, comprising an immobilised binding partner comprising a solid support and a reversibly binding receptor which is capable of bonding to the analyte of interest thereby causing a

measurable change in a property of the immobilised binding partner, and detection means for detecting the measurable change said reversibly binding receptor having a dissociation rate constant of greater than  $10^{-2}$  per second and the half-life of the receptor/analyte **complex** being less than or equal to 60 seconds, thereby allowing the apparatus to respond rapidly to changes in analyte concentration.  
Dwg.1a/6

L34 ANSWER 11 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD  
 AN 1992-034238 [05] WPIDS  
 DNN N1992-026154 DNC C1992-014889  
 TI Detection of reaction partners in solid phase immunoassay - uses, as  
 surfactant, **polyoxyethylene polyoxypropylene** block  
 copolymer obtd. by chromatographic sepn. of commercial block copolymer.  
 DC A89 B04 D16 J04 S03  
 IN GRIESSER, H W; KLEIN, C; KOBOLD, U; SLUKA, P; GRIESSER, H  
 PA (BOEF) BOEHRINGER MANNHEIM GMBH  
 CYC 15  
 PI EP 468481 A 19920129 (199205)\*  
 R: AT BE CH DE ES FR GB GR IT LI LU NL SE  
 DE 4023671 A 19920130 (199206)  
 JP 04232858 A 19920821 (199242) 6p  
 US 5248620 A 19930928 (199340) 6p  
 ADT DE 4023671 A DE 1990-4023671 19900725; JP 04232858 A JP 1991-179098  
 19910719; US 5248620 A US 1991-720305 19910625  
 PRAI DE 1990-4023671 19900725  
 AN 1992-034238 [05] WPIDS  
 AB EP 468481 A UPAB: 19931006  
 Determn. of a partner in an immune reaction using immunoassay in which  
 one  
 of the reaction partners is in the solid phase comprises using, as the  
 surfactant, a **polyethylene oxide polypropylene oxide**  
 block copolymer of formula  $\text{HO}(\text{CH}_2\text{CH}_2\text{O})_a(\text{CHMeCH}_2\text{O})_b(\text{CH}_2\text{CH}_2\text{O})_a\text{H}$  (I) which  
 exhibits, in 1 % aq. soln. (wt./vol) a surface tension of at least 45  
 mN/m  
 and in which the molar ratio of ethylene oxide to propylene oxide gps.  
 (i.e. (2a/b) is at least 5.8. a = 40-150; b = 10-50; ratio 2a/b is at  
 least 5.8.  
 USE/ADVANTAGE - (I) are low-foaming surfactants which inhibit  
 unspecific reciprocal effects between certain components of the sample  
 (plasma) and the surface of the reaction vessel and simultaneously does  
 not dissolve the heterogeneous reaction partner, i.e. the one adsorbed on  
 the surface.  
 0/1  
 ABEQ US 5248620 A UPAB: 19931129  
**Determining analyte** in a **sample** comprises  
 (i) mixing with a specific binding partner of the analyte immobilised on  
 a  
 solid phase in the presence of a surfactant, which comprises at least one  
**polyethylene oxide-polypropylene oxide** block copolymer  
 of formula  
 $\text{HO}(\text{CH}_2\text{CH}_2\text{O})_a(\text{CH}(\text{Me})\text{CH}_2\text{O})_b(\text{CH}_2\text{CH}_2\text{O})_a\text{H}$   
 where a is 40-150 and b is 1-50 to form a **hydrophilic** block  
 copolymer having a surface tension of at least 45 mN/m in at 1%  
 aq. soln., and as are molecular ratio of ethylene oxide to propylene  
 oxide  
 gps. (2a//b) of at least 5.8; and (ii) detecting the **complex** on  
 a solid support.  
 USE/ADVANTAGE - In immunological assays partic. for determining  
 luteinising hormone or follicle stimulating hormone.  
 Dwg.0/1

GABEL

09/403085

L34 ANSWER 12 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD  
 AN 1988-022872 [04] WPIDS  
 DNN N1988-017366 DNC C1988-010068  
 TI Integral multilayer analytical element - includes spreading action  
 controller and/or acid to inhibit migration of water-soluble indicator.  
 DC A96 B04 J04 S03  
 IN FUMINORI, A; KAORU, T; MITSUTOSHI, T; NAKATSUGU, Y  
 PA (FUJF) FUJI PHOTO FILM CO LTD  
 CYC 5  
 PI EP 254202 A 19880127 (198804)\* EN 14p  
 R: DE GB  
 JP 63021553 A 19880129 (198810)  
 JP 63025556 A 19880203 (198811)  
 US 4871679 A 19891003 (198949) 7p  
 US 4966784 A 19901030 (199046)  
 EP 254202 B 19910918 (199138)  
 R: DE GB  
 DE 3773073 G 19911024 (199144)  
 JP 06019354 B2 19940316 (199414) 6p  
 JP 07013635 B2 19950215 (199511) 7p  
 ADT EP 254202 A EP 1987-110240 19870715; JP 63021553 A JP 1986-164570  
 19860715; JP 63025556 A JP 1986-168091 19860718; US 4871679 A US  
 1987-73759 19870715; US 4966784 A US 1989-339015 19890414; JP 06019354 B2  
 JP 1986-168091 19860718; JP 07013635 B2 JP 1986-164570 19860715  
 FDT JP 06019354 B2 Based on JP 63025556; JP 07013635 B2 Based on JP 63021553  
 PRAI JP 1986-164570 19860715; JP 1986-168091 19860718  
 AN 1988-022872 [04] WPIDS  
 AB EP 254202 A UPAB: 19930923  
 A method of prep. an integral multilayer analytical element comprising a  
 water-impermeable, light-transmissive support, a reagent layer (RL)  
 contg.  
 a water-soluble indicator (I) capable of reacting with an analyte to  
 produce an optically detectable change and a porous spreading layer (SL)  
 contg. a spreading action controller (II), superposed in this order,  
 comprises providing the SL on the RL, incorporating a soln. into the SL,  
 the soln. provided by dissolving (II) in an organic solvent which does  
 not  
 dissolve (I), and drying the soln. to remove the organic solvent from the  
 SL.  
 Specifically (II) may be a **hydrophilic polymer**  
 e.g. PVP, **polyvinyl** alcohol, **polyacrylic** acid, methyl  
 cellulose or ethyl cellulose or a nonionic surfactant e.g.  
**polyhydric** alcohol ester ethylene oxide adducts,  
**polyethylene** glycol monoesters, **polyethylene** glycol  
 diesters, alkylphenol ethylene oxide oxides or higher fatty acid alkanol  
 amides. The solvent is e.g. MeO, EtOH, PrOH, BuOH or i-PrOH. Suitable (I)  
 are o-Cresolphthalein **Complexone**, Arsenazo-III and  
 chlorophosphonazo-III. When calcium is the analyte, (II) may be replaced  
 by an acid capable of decomposing the calcium cpds. in a sample, e.g.  
 acetic acid.  
 USE/ADVANTAGE - Migration of (I) can be inhibited using (II) and/or  
 acid so that analytical accuracy of the element is improved. The element  
 can be used to detect analytes such as calcium, **magnesium**,  
 inorganic phosphorus and **iron** in biological fluids, foods,

drinks, liquors and medicines.

0/0

ABEQ EP 254202 B UPAB: 19930923

A method of prepg. an integral multilayer analytical element comprising a water-impermeable, light-transmissive support, a reagent layer (RL)

contg.

a water-soluble indicator (I) capable of reacting with an analyte to produce an optically detectable change and a porous spreading layer (SL) contg. a spreading action controller (II), superposed in this order, comprises providing the SL on the RL, incorporating a soln. into the SL, the soln. provided by dissolving (II) in an organic solvent which does

not

dissolve (I), and drying the soln. to remove the organic solvent from the SL.

Specifically (II) may be a **hydrophilic polymer** e.g. PVP, **polyvinyl** alcohol, **polyacrylic** acid, methyl cellulose or ethyl cellulose or a nonionic surfactant e.g. **polyhydric** alcohol ester ethylene oxide adducts, **polyethylene** glycol monoesters, **polyethylene** glycol diesters, alkylphenol ethylene oxide oxides or higher fatty acid alkanol amides. The solvent is e.g. MeO, EtOH, PrOH, BuOH or i-PrOH. Suitable (I) are o-Cresolphthalein **Complexone**, Arsenazo-III and chlorophosphonazo-III. When calcium is the analyte, (II) may be replaced by an acid capable of decomposing the calcium cpds. in a sample, e.g. acetic acid.

USE/ADVANTAGE - Migration of (I) can be inhibited using (II) and/or acid so that analytical accuracy of the element is improved. The element can be used to detect analytes such as calcium, **magnesium**, inorganic phosphorus and **iron** in biological fluids, foods, drinks, liquors and medicines.

0/0

ABEQ US 4871679 A UPAB: 19930923

Multilayered analytical device for the determination of calcium cpds. comprises a water-impermeable, optically transparent substrate coated

with

a reagent layer contg. a water-soluble substance which gives an optical change on reaction with Ca<sup>2+</sup> ions; opt. an intermediate layer contg. a buffer agent; and then a porous spreading layer contg. acid.

USE - The prods. facilitate the rapid **determination** of calcium in **biological** fluids, e.g. blood, cerebrospinal fluid, lymph, saliva and urine for clinical diagnosis.

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ABEQ US 4966784 A UPAB: 19930923

Prepn. of an integral multilayer analytical element for analysis of Ca cpds. is claimed, comprising (i) a water-impermeable light-transmissive support; (ii) a reagent layer contg. a water-soluble indicator which can react with Ca to produce an optically detectable change, and (iii) a porous spreading layer contg. an acid which decomposes the Ca cpds. in a sample. Process comprises (a) dissolving the acid in an organic solvent which does not dissolve the water-soluble indicator; (b) incorporating this soln. into the porous spreading layer; and (c) drying the layer.

The

element contains a pH buffer which can maintain the pH of the reaction with the indicator at its optimum pH incorporated in the reagent layer or

an intermediate layer between layers (ii) and (iii). ADVANTAGE -  
Effective  
decomposition of Ca cpds. in a sample and effective colouration can be  
achieved.

=> d his

(FILE 'HOME' ENTERED AT 10:15:10 ON 26 JAN 2001)

FILE 'HCAPLUS' ENTERED AT 10:15:22 ON 26 JAN 2001

L1 59 S ELAISSARI A?/AU  
L2 13 S DURACHER D?/AU  
L3 186 S PICHOT C?/AU  
L4 63 S MALLET F?/AU  
L5 772 S NOVELLI?/AU  
L6 1 S L1 AND L2 AND L3 AND L4 AND L5  
SELECT RN L6 1

FILE 'REGISTRY' ENTERED AT 10:16:28 ON 26 JAN 2001

L7 17 S E1-17

FILE 'HCAPLUS' ENTERED AT 10:16:42 ON 26 JAN 2001

L8 1 S L6 AND L7  
L9 54 S (DETN OR DETERMIN? OR ANALY? OR DETECTION) (4A) (SAMPLE OR  
BIOL  
L10 1464 S (DETN OR DETERMIN? OR ANALY? OR DETECTION) AND COMPLEX? AND  
H  
L11 157 S L10 AND (TRANSITION METAL OR ZINC OR ZN OR NICKEL OR NI OR  
CO  
L12 198 S L10 AND (COBALT OR CO OR IRON OR FE)  
L13 104 S L10 AND (MAGNESIUM OR MG OR MANGANESE OR MN)  
L14 93 S L10 AND (LEAD OR PB OR PALLADIUM OR PD)  
L15 49 S L10 AND (PLATINUM OR PT OR GOLD OR AU)  
L16 414 S L11-L15

FILE 'REGISTRY' ENTERED AT 11:08:29 ON 26 JAN 2001

FILE 'HCAPLUS' ENTERED AT 11:08:34 ON 26 JAN 2001

SET SMARTSELECT ON  
L17 SEL L16 1- RN : 2595 TERMS  
SET SMARTSELECT OFF

FILE 'REGISTRY' ENTERED AT 11:09:03 ON 26 JAN 2001

L18 2591 S L17  
L19 242 S L18 AND PMS/CI

FILE 'HCAPLUS' ENTERED AT 11:11:01 ON 26 JAN 2001

L20 113 S (L11-L15) AND L19  
E DETER/CV  
E DETERMIN/CV  
E DETERMIN/IT  
E DETERMINATION/IT  
L21 798794 S DETERMINATION/IT  
L22 21 S L20 AND L21  
L23 55 S L20 AND (ANALY? OR DETN OR DETECT?)/IT  
L24 55 S L22 OR L23  
L25 17 S L9 AND (L11-L15)  
L26 13 S L25 NOT L24

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09/403085

FILE 'WPIDS' ENTERED AT 11:52:02 ON 26 JAN 2001

L27	36 S L9
L28	8 S L27 AND (TRANSITION METAL OR ZINC OR ZN OR NICKEL OR NI )
L29	10 S L27 AND ((COBALT OR CO OR IRON OR FE OR COPPER OR CU))
L30	5 S L27 AND (MAGNESIUM OR MG OR MANGANESE OR MN)
L31	5 S L27 AND (LEAD OR PB OR PALLADIUM OR PD)
L32	5 S L27 AND (PLATINUM OR PT OR GOLD OR AU)
L33	18 S L28-L32
L34	12 S L33 AND (POLY? OR POLYMER?)

L24 ANSWER 1 OF 55 HCAPLUS COPYRIGHT 2001 ACS

AN 2000:489532 HCAPLUS

DN 133:71118

TI The synthesis of fluorescent semiconductor labels for affinity molecules

IN Bawendi, Mounqi G.; Sundar, Vikram C.; Mikulec, Frederick V.

PA Massachusetts Institute of Technology, USA

SO Brit. UK Pat. Appl., 78 pp.

CODEN: BAXXDU

DT Patent

LA English

FAN.CNT 4

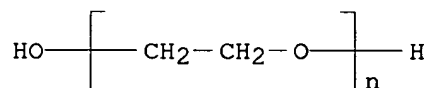
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2342651	A1	20000419	GB 1999-22072	19990917
PRAI	US 1998-100947		19980918		
	US 1998-160545		19980924		

AB The invention concerns a fluorescent semiconductor nanocrystal used as a tag or label for a biol. mol. which is preferably a member of a specific binding pair such as avidin, biotin, antibody, antigen or an oligonucleotide. The nanocrystal-tagged binding members may be used in assays to detect target **analytes** and particularly in multiplex assays where a plurality of **analytes** are simultaneously detected by the use of differently tagged binding members, the different nanocrystal label having emission spectra that are distinct from each other. Thus a CdSe core coated with **ZnS** and capped with trioctylphosphine oxide (TOPO) was prep'd. in a reaction using trioctylphosphine (TOP), di-Me cadmium, and di-Et **zinc**. The nanocrystal structure was made water sol. with the addn. of mercaptoundecanoic acid and was used as a label for avidin. Thus, biotin-thiol and biotin-amine nanocrystal **complexes** are prep'd.

IT **25322-68-3**, Polyethylene glycol  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)  
 (the synthesis of fluorescent semiconductor labels for affinity mols.)

RN **25322-68-3** HCAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **9013-20-1**, Streptavidin

RL: RCT (Reactant)

(the synthesis of fluorescent semiconductor labels for affinity mols.)

RN **9013-20-1** HCAPLUS

CN Streptavidin (8CI, 9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L24 ANSWER 2 OF 55 HCAPLUS COPYRIGHT 2001 ACS

AN 1999:819529 HCAPLUS

DN 132:60102

TI Nucleic acid-coupled colorimetric **analyte** detectors using self-assembling polydiacetylenic materials

IN Charych, Deborah H.; Jonas, Ulrich

PA Regents of the University of California, USA

SO PCT Int. Appl., 176 pp.

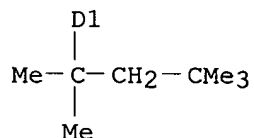
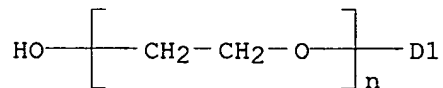
CODEN: PIXXD2

DT Patent

LA English

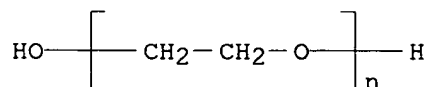
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9967423	A1	19991229	WO 1999-US14029	19990622
	W: AU, CA, JP				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9947047	A1	20000110	AU 1999-47047	19990622
PRAI	US 1998-90266		19980622		
	WO 1999-US14029		19990622		
AB	The present invention relates to methods and compns. for the direct <b>detection</b> of <b>analytes</b> and membrane conformational changes through the <b>detection</b> of color changes in biopolymeric materials. In particular, the present invention provides for the direct colorimetric <b>detection</b> of <b>analytes</b> using nucleic acid ligands at surfaces or polydiacetylene liposomes and related mol. layer systems. Synthetic schemes are provided for the prepn. and immobilization of polydiacetylenic materials with various head groups.				
IT	<b>9036-19-5</b> , Octoxynol <b>25322-68-3</b> <b>34344-66-6</b> , Polysorbic acid RL: MOA (Modifier or additive use); USES (Uses) (dopant for biopolymeric materials; nucleic acid-coupled colorimetric <b>analyte detectors</b> using self-assembling polydiacetylenic materials)				
RN	9036-19-5 HCAPLUS				
CN	Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy- (9CI) (CA INDEX NAME)				



RN 25322-68-3 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 34344-66-6 HCAPLUS

CN 2,4-Hexadienoic acid, (2E,4E)-, homopolymer (9CI) (CA INDEX NAME)

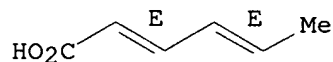
CM 1

CRN 110-44-1

CMF C6 H8 O2

CDES 2:E,E

Double bond geometry as shown.



IT 9001-86-9, Phospholipase C 9002-61-3, Chorionic gonadotropin

RL: ANT (Analyte); ANST (Analytical study)  
(nucleic acid-coupled colorimetric **analyte detectors**  
using self-assembling polydiacetylenic materials)

RN 9001-86-9 HCAPLUS

CN Phospholipase C (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9002-61-3 HCAPLUS

CN Gonadotropin, chorionic (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 9002-84-0, Teflon 9002-88-4, Polyethylene  
9003-53-6, Polystyrene 9012-36-6, Sepharose  
9014-76-0, Sephadex 25014-41-9D, Polyacrylonitrile,  
comps.  
RL: DEV (Device component use); USES (Uses)  
(solid support; nucleic acid-coupled colorimetric **analyte**  
**detectors** using self-assembling polydiacetylenic materials)

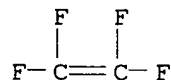
RN 9002-84-0 HCAPLUS

CN Ethene, tetrafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 116-14-3

CMF C2 F4



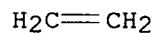
RN 9002-88-4 HCAPLUS

CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1

CMF C2 H4



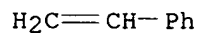
RN 9003-53-6 HCAPLUS

CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5

CMF C8 H8



RN 9012-36-6 HCAPLUS

CN Agarose (8CI, 9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9014-76-0 HCAPLUS

CN Sephadex (8CI, 9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

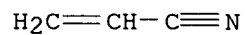
RN 25014-41-9 HCAPLUS

CN 2-Propenenitrile, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 107-13-1

CMF C3 H3 N



RE.CNT 9

RE

(1) Arnold; US 5616790 A 1997 HCAPLUS

(2) Arnold; US 5837202 A 1998 HCAPLUS

(3) Gold; US 5475096 A 1995 HCAPLUS

(4) McGall; US 5412087 A 1995 HCAPLUS

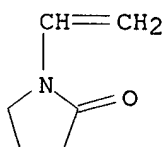
(6) Offenbacher; US 5928918 A 1999 HCAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 3 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1999:806435 HCAPLUS  
DN 132:68919  
TI **Determination** of Ag(I), Hg(II), Cu(II), Pb  
(II), Cd(II) by stripping voltammetry in aqueous solutions using  
**complexing** polymers in conjunction with membrane filtration  
AU Osipova, E. A.; Sladkov, V. E.; Kamenev, A. I.; Shkinev, V. M.; Geckeler,  
K. E.  
CS Department of Chemistry, Moscow State University, Moscow, 119899, Russia  
SO Anal. Chim. Acta (2000), 404(2), 231-240  
CODEN: ACACAM; ISSN: 0003-2670  
PB Elsevier Science B.V.  
DT Journal  
LA English  
AB The electrochem. behavior of a series of metal ions (Ag<sup>+</sup>, Hg<sup>2+</sup>, Cu<sup>2+</sup>,  
Pb<sup>2+</sup>, Cd<sup>2+</sup>) and the ternary Cu<sup>2+</sup>-Pb<sup>2+</sup>-Cd<sup>2+</sup> system in solns. of water-sol.  
**complexing** polymers poly(ethylenimine) (PEI), poly(1-vinyl-2-  
pyrrolidone) (PVP), and their thiourea-contg. derivs.  
poly(ethylenimine)methylthiourea (PEI-TU) and poly(1-vinyl-2-  
pyrrolidone)methylthiourea (PVP-TU), was studied using cyclic and anodic  
stripping voltammetry (ASV) at different C electrodes. Optimum  
conditions  
were selected for the stripping voltammetric **detn.** of Ag<sup>+</sup>, Hg<sup>2+</sup>,  
Cu<sup>2+</sup>, Pb<sup>2+</sup>, and Cd<sup>2+</sup> in a concn. range from 10<sup>-6</sup> to 10<sup>-5</sup> M in the  
presence  
of water-sol. polymers at the C-paste electrode (relative std. deviation  
was <10%). The stability of metal **complexes** with PEI decreased  
in the following order: Hg<sup>2+</sup> > Cu<sup>2+</sup> > Ag<sup>+</sup> > Cd<sup>2+</sup> > Pb<sup>2+</sup>. The  
**hydrophilic** polymer, PEI, reduced the intermetallic interactions  
of components of the Cu<sup>2+</sup>-Pb<sup>2+</sup>-Cd<sup>2+</sup> ternary system on the electrode  
surface. The different **complex** stabilities of Pb<sup>2+</sup>, Cd<sup>2+</sup>, and  
Cu<sup>2+</sup> with PEI allowed **detn.** of Pb<sup>2+</sup> and Cd<sup>2+</sup> in the presence of  
a larger excess of Cu<sup>2+</sup> (100/1 and 10/1, resp.) vs. a procedure without  
PEI (10/1 and 0.33/1, resp.). Conditions were optimized for the  
simultaneous stripping voltammetric **detn.** of the components of  
the divalent Pb<sup>2+</sup>-Cu<sup>2+</sup>-Cd<sup>2+</sup> system in 2% aq. solns. of PEI. The  
possibility of **detg.** Cu<sup>2+</sup> and Pb<sup>2+</sup> in tap water after pre-concn.  
as PEI **complexes** using membrane filtration was demonstrated.  
IT **9002-98-6**, Poly(ethylenimine) **9003-39-8**,  
Poly(1-vinyl-2-pyrrolidone)  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(**complexing** polymer; metal ion **detn.** in water-sol.  
**complexing** polymer solns. by cyclic and anodic stripping  
voltammetry in conjunction with membrane filtration)  
RN 9002-98-6 HCAPLUS  
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 151-56-4  
CMF C2 H5 N



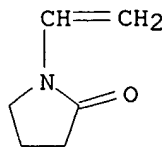
RN 9003-39-8 HCAPLUS  
CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)  
CM 1  
CRN 88-12-0  
CMF C6 H9 N O



IT 9002-98-6D, thiourea deriv., methylated 9003-39-8D,  
Poly(1-vinyl-2-pyrrolidone), thiourea deriv., methylated  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(metal ion **detn.** in water-sol. **complexing** polymer  
solns. by cyclic and anodic stripping voltammetry in conjunction with  
membrane filtration)  
RN 9002-98-6 HCAPLUS  
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)  
CM 1  
CRN 151-56-4  
CMF C2 H5 N



RN 9003-39-8 HCAPLUS  
CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)  
CM 1  
CRN 88-12-0  
CMF C6 H9 N O



RE.CNT 14

RE

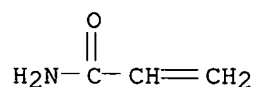
- (3) Brainina, K; J Electroanal Chem 1979, V99, P1 HCAPLUS
  - (5) Brainina, K; Talanta 1971, V18, P513 HCAPLUS
  - (7) Geckeler, K; Anal Chim Acta 1986, V189, P285 HCAPLUS
  - (8) Geckeler, K; Angew Makromol Chem 1987, V155, P151 HCAPLUS
  - (9) Geckeler, K; Pure Appl Chem 1980, V52, P1883 HCAPLUS
- ALL CITATIONS AVAILABLE IN THE RE FORMAT

GABEL

09/403085

=> d bib abs hitstr 4-9

L24 ANSWER 4 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1999:670449 HCAPLUS  
DN 132:32811  
TI High-Resolution Capillary Isoelectric Focusing of **Complex**  
Protein Mixtures from Lysates of Microorganisms  
AU Shen, Yufeng; Xiang, Fan; Veenstra, Timothy D.; Fung, Eliza N.; Smith,  
Richard D.  
CS Environmental Molecular Sciences Laboratory, Pacific Northwest National  
Laboratory, Richland, WA, 99352, USA  
SO Anal. Chem. (1999), 71(23), 5348-5353  
CODEN: ANCHAM; ISSN: 0003-2700  
PB American Chemical Society  
DT Journal  
LA English  
AB High-resoln. capillary isoelec. focusing sepn. of **complex**  
protein mixts. have been obtained for cellular lysates of *Saccharomyces*  
*cerevisiae*, *Escherichia coli*, and *Deinococcus radiodurans*. High quality  
sepn. are shown to be achievable for total protein concns. of <0.1  
mg/mL. The sepn. reproducibility was examd., and the influence of  
the capillary inner wall coating on resoln. investigated using fused-  
silica capillaries coated with various **hydrophilic** polymers  
including hydroxypropyl cellulose, poly(vinyl alc.), and linear  
polyacrylamide. Proteins having an isoelec. point (pI) difference of  
0.004 are shown to be sepd. using a linear carrier ampholyte (linear pH  
gradient between two electrodes) of 3-10. Approx. 45 discrete peaks in  
the pI range of 5-7 were obtained for *S. cerevisiae*, .apprx.80 peaks in  
the pI range of 4.5-8.5 for *E. coli*, and .apprx.210 peaks in the pI range  
of 3-8.8 for *D. radiodurans*.  
IT **9003-05-8**, Polyacrylamide.  
RL: ANT (Analyte); PEP (Physical, engineering or chemical process); ANST  
(Analytical study); PROC (Process)  
(high-resoln. capillary isoelec. focusing of **complex** protein  
mixts. from lysates of microorganisms)  
RN 9003-05-8 HCAPLUS  
CN 2-Propenamide, homopolymer (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 79-06-1  
CMF C3 H5 N O



IT **9002-89-5**, Poly(vinyl alcohol)  
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST  
(Analytical study); USES (Uses)  
(high-resoln. capillary isoelec. focusing of **complex** protein  
mixts. from lysates of microorganisms)  
RN 9002-89-5 HCAPLUS  
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O

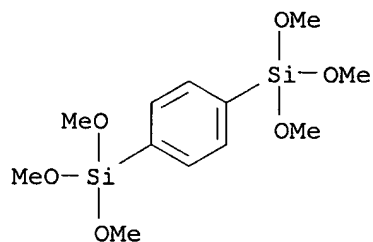
 $\text{H}_2\text{C}=\text{CH}-\text{OH}$ 

RE.CNT 17

RE

- (1) Bradford, M; Anal Biochem 1976, V72, P248 HCAPLUS
  - (3) Conti, M; J Chromatogr A 1997, V757, P237 HCAPLUS
  - (4) Delinger, S; Anal Chem 1990, V62, P436 HCAPLUS
  - (6) Hjerten, S; J Chromatogr 1985, V346, P265 HCAPLUS
  - (8) O'Farrell, P; J Biol Chem 1975, V250, P4007 HCAPLUS
- ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 5 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1999:255098 HCAPLUS  
DN 131:130553  
TI Influence of kinetic parameters on the textural and chemical properties  
of  
silsesquioxane materials obtained by sol-gel process  
AU Cerveau, Genevieve; Corriu, Robert J. P.; Fischmeister-Lepeytre, Cedric  
CS Laboratoire de Chimie Moleculaire et Organisation du Solide, UMR 5637,  
Case Courrier, Universite Montpellier II, Montpellier, Fr.  
SO J. Mater. Chem. (1999), 9(5), 1149-1154  
CODEN: JMACEP; ISSN: 0959-9428  
PB Royal Society of Chemistry  
DT Journal  
LA English  
AB The hydrolytic sol-gel polymn. of a 'rigid' mol. precursor 1,4-C<sub>6</sub>H<sub>4</sub>  
[Si(OMe)<sub>3</sub>]<sub>2</sub> (1) and a more 'flexible' one, 1,4-C<sub>6</sub>H<sub>4</sub>[CH<sub>2</sub>CH<sub>2</sub>Si(OMe)<sub>3</sub>]<sub>2</sub> (2),  
was investigated by varying the exptl. conditions. Two solvents, MeOH  
and  
THF, were employed. The influence of the catalyst has been **detd**  
. by using TBAF (tetrabutylammonium fluoride) or NH<sub>4</sub>F as nucleophilic  
catalysts, NH<sub>4</sub>OH and NaOH as basic catalysts and HCl as acid catalyst.  
The effect of concn. of the precursor was also studied. Mol. precursor 1  
led always to **hydrophilic** solids with similar degrees of  
condensation (63-67%). In all cases, high sp. surface areas and poor  
chem. reactivity towards Cr(CO)<sub>6</sub> were obsd. and the solvent had  
an influence on the porosity. By contrast, the precursor 2 led to  
hydrophobic solids and the texture, the degree of condensation and the  
reactivity with Cr(CO)<sub>6</sub> were strongly dependent on the solvent,  
the catalyst and the concn. In MeOH, no significant sp. surface areas  
were obsd., whereas in THF a high sp. surface area was obsd. with TBAF  
catalysis at both precursor concns. studied. Degrees of condensation  
were  
higher in THF. All the kinetic parameters involved in the hydrolytic  
sol-gel polymn. of mol. organosilicon precursors were of importance on  
the  
properties of the resulting solids, the main factor being the geometry of  
the org. unit.  
IT **167114-68-3P**, 1,4-Bis(trimethoxysilyl)benzene homopolymer  
**167114-69-4P**, 1,4-Bis[2-(trimethoxysilyl)ethyl]benzene homopolymer  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(effect of catalysts, solvents, and kinetic parameters on textural and  
chem. properties of silsesquioxane materials obtained by sol-gel  
process)  
RN 167114-68-3 HCAPLUS  
CN Silane, 1,4-phenylenebis(trimethoxy-, homopolymer (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 90162-40-6  
CMF C12 H22 O6 Si2



RN 167114-69-4 HCAPLUS

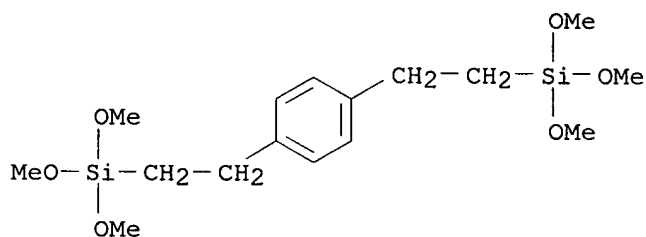
CN Silane, (1,4-phenylenedi-2,1-ethanediyl)bis[trimethoxy-, homopolymer  
(9CI)

(CA INDEX NAME)

CM 1

CRN 60354-74-7

CMF C16 H30 O6 Si2



RE.CNT 38

RE

- (1) Audebert, P; J Electroanal Chem 1994, V372, P275 HCAPLUS
- (2) Audebert, P; J Electroanal Chem 1996, V413, P89 HCAPLUS
- (5) Battioni, P; Chem Commun 1996, P2037 HCAPLUS
- (6) Bezombes, J; J Mater Chem 1998, V8, P1749 HCAPLUS
- (9) Carr, S; J Mater Chem 1997, V7, P865 HCAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 6 OF 55 HCAPLUS COPYRIGHT 2001 ACS

AN 1999:96435 HCAPLUS

DN 130:118817

TI Low **detection** limit ion selective membrane electrodes

IN Sokalski, Tomasz; Pretsch, Erno

PA Orion Research, Inc., USA

SO PCT Int. Appl., 24 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9905515	A1	19990204	WO 1998-US15217	19980723
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	AU 9886605	A1	19990216	AU 1998-86605	19980723
	EP 1023589	A1	20000802	EP 1998-937983	19980723
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
	US 6126801	A	20001003	US 1998-121383	19980723
PRAI	US 1997-53665		19970724		
	US 1997-57287		19970829		
	WO 1998-US15217		19980723		
AB	The invention is an ion-selective solvent polymeric or liq. membrane electrode constructed to extend the measuring range at the lower end by at least six orders of magnitude. Membranes based on a neutral ionophore can be used, as can a charged ionophore, or an ion-exchanger. Low <b>detection</b> limits are achieved by maintaining a very low and const. concn. of the primary ion and a sufficiently high concn. of an interfering ion in the internal ref. soln. The low and const. concn. of the primary ion is either adjusted with the help of a soln. of a <b>hydrophilic</b> ion buffer such as ethylenediamine tetraacetic acid or by adding an excess of a salt of an ion which forms a sparingly sol. salt with the primary ion, such as NaI for the primary ion Ag <sup>+</sup> . With the new technique, ion-selective electrodes can be used, for the 1st time, for environmental monitoring of heavy metal ions such as Pb <sup>2+</sup> and Cd <sup>2+</sup> at the submicromolar level.				
IT	<b>9002-86-2</b> , PVC RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses) (metal ions <b>detn.</b> at submicromolar level in environmental samples and body fluids by ion selective membrane electrodes)				
RN	9002-86-2 HCAPLUS				

GABEL

09/403085

CN Ethene, chloro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 75-01-4

CMF C2 H3 Cl

$\text{H}_2\text{C}=\text{CH}-\text{Cl}$

RE.CNT 2

RE

(1) Band; US 5395505 A 1995 HCAPLUS

(2) Yamashita; US 5472590 A 1995 HCAPLUS

L24 ANSWER 7 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1998:790825 HCAPLUS  
DN 130:147923  
TI Preconcentration of trace As(V) with **iron(III) complex**  
of chelating resin having lysine-polyacetic acid moiety for its  
**determination** with ICP-AES  
AU Matsunaga, Hideyuki; Yokoyama, Toshirou  
CS Tohoku Natl. Ind. Res. Inst., Sendai, 983-8551, Japan  
SO Bunseki Kagaku (1998), 47(12), 999-1004  
CODEN: BNSKAK; ISSN: 0525-1931  
PB Nippon Bunseki Kagakkai  
DT Journal  
LA Japanese  
AB **Fe(III)**-bound chelating resins (**Fe**-LDA and **Fe**  
-LTA) with lysine-polycarboxylic acid functional groups have been prepd.  
and their adsorption characteristics for As(III) and As(V) examd. A  
relatively rapid adsorption of both **Fe** with LTA and As with  
**Fe**-LTA compared to LDA was obsd., whereas their adsorptivities  
were not as good as those with LDA, except for a wider pH range from 2 to  
7 for the optimum adsorption. These are probably because of an excessive  
carboxylic functional group in LTA against LDA. The **hydrophilic**  
property of the carboxylic group may **lead** to a fast uptake of  
the metal ions with LTA, whereas it may block the site for the adsorption  
of As in the **Fe**-lysine **complex**. The preconcn. of  
trace As for **detn.** with ICP-AES was studied using column methods  
packed with **Fe**-LDA resin. At least a 10<sup>-8</sup> mol/dm<sup>3</sup> As(V) soln.  
was easily concd. to 1000 times with 1 g of **Fe**-LDA resin and a  
flow rate of 1 cm<sup>3</sup>/min, and was successfully **detd.** with ICP-AES  
without any hydride generation technique.  
IT **9003-53-6DP**, Polystyrene, dimethylsulfonio derivs., reaction  
products with lysine derivs., **iron complexes**  
RL: ARG (Analytical reagent use); IMF (Industrial manufacture); ANST  
(Analytical study); PREP (Preparation); USES (Uses)  
(preconcn. of trace arsenic with **iron complex** of  
chelating resin for **detn.** by ICP-AES)  
RN 9003-53-6 HCAPLUS  
CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 100-42-5  
CMF C8 H8

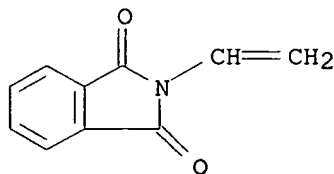
H<sub>2</sub>C=CH-Ph

L24 ANSWER 8 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1998:777179 HCAPLUS  
DN 130:75524  
TI Hydrophobic interaction of **analytes** with permselective  
poly(N-vinyl amide) films on electrodes  
AU Hofbauer, Michaela; Heineman, William R.; Kreishman, George P.; Steckhan,  
Eberhard  
CS Kekule-Institut fuer Organische Chemie und Biochemie, Bonn, D-53121,  
Germany  
SO Anal. Chem. (1999), 71(2), 399-406  
CODEN: ANCHAM; ISSN: 0003-2700  
PB American Chemical Society  
DT Journal  
LA English  
AB The synthesis and properties of poly(N-vinyl amide) copolymer films made  
of N-vinylpyrrolidone (NVP) and N-vinylphthalimide (NVPH) are described.  
The films are cast as permselective layers with a thickness between 0.18  
and 1.5 .mu.m onto spectroscopic graphite electrodes. The permselective  
properties of films of different thicknesses were studied with various  
charged and uncharged **hydrophilic** and hydrophobic  
**analytes** as probes using electrochem. methods. Although the  
poly(N-vinyl amide) films are uncharged, they show sufficient cond. for  
electrochem. measurements such as cyclic voltammetry. The main forces  
dominating the permselectivity of the copolymer films are hydrophobic  
interactions, which **lead** to a preferred preconcn. of neutral,  
hydrophobic **analytes** such as catechol in the film. Charged,  
**hydrophilic analytes** such as ascorbate or ruthenium  
hexaamine are rejected by the polymer film, so that their electrochem.  
signal is substantially attenuated at sufficiently large film thickness.  
The normalized selectivity ratio for catechol with respect to ascorbate  
reached a value of 57.  
IT **28299-90-3P**, N-Vinylphthalimide-N-vinylpyrrolidone copolymer  
RL: ARU (Analytical role, unclassified); DEV (Device component use); PEP  
(Physical, engineering or chemical process); SPN (Synthetic preparation);  
ANST (Analytical study); PREP (Preparation); PROC (Process); USES (Uses)  
(hydrophobic interaction of **analytes** with permselective  
poly(N-vinyl amide) films on graphite electrodes)  
RN 28299-90-3 HCAPLUS  
CN 1H-Isoindole-1,3(2H)-dione, 2-ethenyl-, polymer with 1-ethenyl-2-  
pyrrolidinone (9CI) (CA INDEX NAME)

CM 1

CRN 3485-84-5

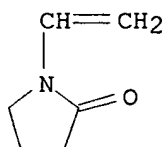
CMF C10 H7 N O2



CM 2

CRN 88-12-0

CMF C6 H9 N O



RE.CNT 25

RE

- (2) Cheng, Q; Anal Chem 1995, V67, P2767 HCAPLUS
  - (3) Christie, I; Anal Chim Acta 1992, V269, P65 HCAPLUS
  - (4) Coury, L; Anal Chem 1988, V60, P553 HCAPLUS
  - (5) Cram, D; Top Curr Chem 1981, V98, P43 HCAPLUS
  - (6) Deakin, M; Anal Chem 1986, V58, P1474 HCAPLUS
- ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 9 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
 AN 1998:716219 HCAPLUS  
 DN 129:313117  
 TI Method and immunoassay assembly for the **detection** of biological materials using a capture phase with immobilized reagent  
 IN Elaissari, Abdelhamid; Duracher, David; Pichot, Christian; Mallet, Francois; Novelli-Rousseau, Armelle  
 PA Bio Merieux, Fr.  
 SO PCT Int. Appl., 25 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA French  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9847000	A2	19981022	WO 1998-FR772	19980416
	WO 9847000	A3	19990211		
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
	FR 2762394	A1	19981023	FR 1997-4923	19970416
	FR 2762394	B1	19990528		
	AU 9874362	A1	19981111	AU 1998-74362	19980416
	EP 975968	A2	20000202	EP 1998-921550	19980416
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			

PRAI FR 1997-4923 19970416  
 WO 1998-FR772 19980416

AB The invention concerns a method for isolating a target biol. material contained in a sample, consisting of the following steps: providing a capture phase, in microparticulate or linear form, consisting of at least a first particulate or linear polymer, with apparent **hydrophile** character and first **complexing** groups, the latter being bound by **co-ordination** to a first **transition metal**, which is itself bound to a first biol. entity capable of specifically recognizing the target biol. material; contacting said target biol. material with at least the capture phase; and detecting the capture phase-target biol. material **complex**, optionally with a **detection** phase, in microparticulate or linear form, and consisting of at least a second particulate or linear polymer, with apparent **hydrophile** character and second **complexing** groups, the latter being bound by **co-ordination** to a second **transition metal**, which is itself bound to a second biol. entity capable of specifically recognizing the target biol. material, and a marker. Markers are e.g. enzymes, fluorescent dyes, magnetic particles, antigens, heptanes, antibodies. Thus styrene-N-isopropylacrylamide copolymer was functionalized with 2-aminoethyl methacrylate; poly(N-isopropylacrylamide) was functionalized with maleic anhydride-methylvinylether copolymer and grafted to the

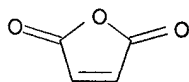
amino-group contg. polymer.  $Zn^{2+}$  was bound to the **complexation** groups and the recombinant protein RH24 with a histidine tag was immobilized to obtain the capturing phase.

IT 9011-16-9DP, 2,5-Furandione, polymer with methoxyethene, reaction with poly(N-isopropylacrylamide) and graft polymer with styrene-N-isopropylacrylamide copolymer functionalized with 2-aminoethyl methacrylate 25189-55-3DP, Poly(N-isopropylacrylamide), reaction with 2,5-furandione polymer with methoxyethene and graft polymer with styrene-N-isopropylacrylamide copolymer functionalized with 2-aminoethyl methacrylate 97381-57-2DP, reaction with 2-Propenoic acid, 2-methyl-, 2-aminoethyl ester and grafted with poly(N-isopropylacrylamide) functionalized with 2,5-furandione polymer with methoxyethene  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation) (method and immunoassay assembly for **detection** of biol. materials using a capture phase with immobilized reagent)  
 RN 9011-16-9 HCAPLUS  
 CN 2,5-Furandione, polymer with methoxyethene (9CI) (CA INDEX NAME)

CM 1

CRN 108-31-6

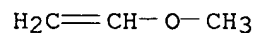
CMF C4 H2 O3



CM 2

CRN 107-25-5

CMF C3 H6 O



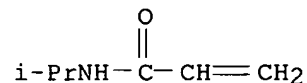
RN 25189-55-3 HCAPLUS

CN 2-Propenamamide, N-(1-methylethyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 2210-25-5

CMF C6 H11 N O



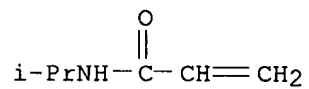
RN 97381-57-2 HCAPLUS

CN 2-Propenamide, N-(1-methylethyl)-, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 2210-25-5

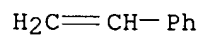
CMF C6 H11 N O



CM 2

CRN 100-42-5

CMF C8 H8



GABEL

09/403085

=> d bib abs hitstr 10-55

L24 ANSWER 10 OF 55 HCAPLUS COPYRIGHT 2001 ACS

AN 1998:568970 HCAPLUS

DN 129:200179

TI Methods and compns. for **detection** of **analytes** using  
color changes that occur in biopolymeric material in response to  
selective

binding of **analytes**

IN Stevens, Raymond; Quan, Cheng

PA The Regents of the University of California, USA

SO PCT Int. Appl., 121 pp.

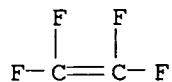
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

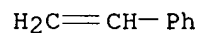
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----		-----	-----	-----
PI	WO 9836263	A1	19980820	WO 1998-US2777	19980213
	W: AU, CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,				
SE	AU 9861627	A1	19980908	AU 1998-61627	19980213
	EP 1007943	A1	20000614	EP 1998-906389	19980213
	R: CH, DE, FR, GB, LI				
PRAI	US 1997-38383		19970214		
	WO 1998-US2777		19980213		
AB	The present invention relates to methods and compns. for the direct <b>detection</b> of <b>analytes</b> using color changes that occur in biopolymeric material in response to selective binding of <b>analytes</b> . The invention provides biopolymeric materials comprising a plurality of polymd. self-assembling monomers and one or more protein ligands, wherein the biopolymeric materials change color in the presence of <b>analyte</b> . In some embodiments, the protein ligands are selected from the group consisting of peptides, proteins, antibodies, receptors, channels, and combinations thereof, although the present invention contemplates all protein ligands. In specific embodiments, the antibodies of the presently claimed invention are directed against Chlamydia.				
IT	9002-84-0, Teflon 9002-88-4 9003-53-6, Polystyrene 9012-36-6, Sepharose 9014-76-0, Sephadex 9036-19-5, Octoxynol 25014-41-9, Polyacrylonitrile 25322-68-3 RL: ARU (Analytical role, unclassified); ANST (Analytical study) (methods and compns. for <b>detection</b> of <b>analytes</b> using color changes that occur in biopolymeric material in response to selective binding of <b>analytes</b> )				
RN	9002-84-0 HCAPLUS				
CN	Ethene, tetrafluoro-, homopolymer (9CI) (CA INDEX NAME)				
CM	1				
CRN	116-14-3				
CMF	C2 F4				



RN 9002-88-4 HCAPLUS  
CN Ethene, homopolymer (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 74-85-1  
CMF C2 H4



RN 9003-53-6 HCAPLUS  
CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 100-42-5  
CMF C8 H8



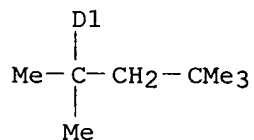
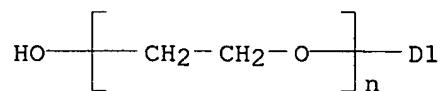
RN 9012-36-6 HCAPLUS  
CN Agarose (8CI, 9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9014-76-0 HCAPLUS  
CN Sephadex (8CI, 9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9036-19-5 HCAPLUS  
CN Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-  
.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 25014-41-9 HCAPLUS

CN 2-Propenenitrile, homopolymer (9CI) (CA INDEX NAME)

CM 1

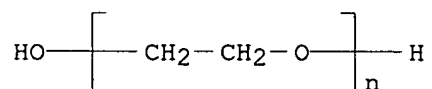
CRN 107-13-1

CMF C3 H3 N



RN 25322-68-3 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT 27987-87-7, Polydiacetylene

RL: ARU (Analytical role, unclassified); PRP (Properties); RCT (Reactant);

ANST (Analytical study)

(methods and compns. for **detection of analytes**

using color changes that occur in biopolymeric material in response to selective binding of **analytes**)

RN 27987-87-7 HCAPLUS

CN 1,3-Butadiyne, homopolymer (9CI) (CA INDEX NAME)

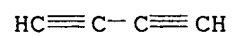
CM 1

CRN 460-12-8

GABEL

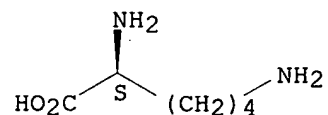
09/403085

CMF C4 H2



L24 ANSWER 11 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
 AN 1998:468370 HCAPLUS  
 DN 129:241935  
 TI Amperometric glucose sensor using a polyion **complex**-enzyme bilayer system  
 AU Mizutani, Fumio; Sato, Yukari; Sawaguchi, Takahiro; Yabuki, Soichi  
 CS National Institute of Bioscience and Human-Technology, Ibaraki, 305, Japan  
 SO Chem. Sens. (1997), 13(Suppl. B, Proceedings of the 25th Chemical Sensor Symposium, 1997), 37-40  
 CODEN: KAGSEU  
 PB Denki Kagakkai Kagaku Sensa Kenkyukai  
 DT Journal  
 LA Japanese  
 AB An amperometric glucose-sensing electrode was prepd. as follows. First,  
 a **gold** electrode was modified with mercaptopropionic acid (MPA) by soaking the electrode in an alc. soln. contg. MPA. Then an aq. soln. contg. poly-L-lysine and that contg. poly(4-styrenesulfonate) was successively placed on the electrode surface to form a polyion **complex** layer, and the solvent was allowed to dry. Finally, an enzyme layer was formed on the polyion **complex** layer by placing a glucose oxidase (GOx) soln. and a glutaraldehyde soln. and drying. The modification of the **gold** surface with MPA was effective for enhancing the adhesiveness of the polyion **complex** layer to the base electrode owing to the electrostatic interaction between the amino groups of poly-L-lysine and the carboxylic groups of MPA mols. on the electrode. The amino groups of poly-L-lysine were also be useful for immobilizing GOx mols. The **hydrophilicity** and permoselectivity of the polyion **complex** membrane were effective in obtaining a rapid response for glucose (100% response time, 5 s) and how interferential levels (e.g., the ratio of response for L-ascorbic acid to that for the same concn. of glucose, 0.07).  
 IT **25104-18-1**, Poly-L-lysine **28210-41-5**  
 RL: DEV (Device component use); USES (Uses)  
 (amperometric glucose sensor using a polyion **complex**-enzyme bilayer system)  
 RN 25104-18-1 HCAPLUS  
 CN L-Lysine, homopolymer (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 56-87-1  
 CMF C6 H14 N2 O2  
 CDES 5:L

Absolute stereochemistry.



GABEL

09/403085

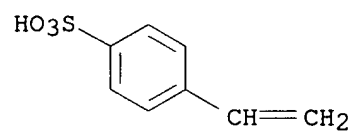
RN 28210-41-5 HCAPLUS

CN Benzenesulfonic acid, 4-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

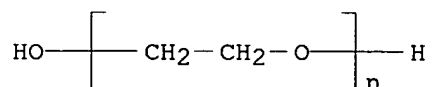
CM 1

CRN 98-70-4

CMF C8 H8 O3 S



L24 ANSWER 12 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
 AN 1997:811812 HCAPLUS  
 DN 128:151318  
 TI MALDI mass spectrometry of biomolecules and synthetic polymers using  
 alkali hexacyanoferrate (II) **complexes** and glycerol as matrix  
 AU Zollner, Peter; Stubiger, Gerald; Schmid, Erich; Pittenauer, Ernst;  
 Allmaier, Gunter  
 CS Wahringer Str. 38, Institute for Analytical Chemistry, University of  
 Vienna, Vienna, A-1090, Austria  
 SO Int. J. Mass Spectrom. Ion Processes (1997), 169/170, 99-109  
 CODEN: IJMPDN; ISSN: 0168-1176  
 PB Elsevier Science B.V.  
 DT Journal  
 LA English  
 AB K4[Fe(CN)6]/glycerol and Na4[Fe(CN)6]/glycerol have  
 been investigated as liq. matrix systems for UV-MALDI MS applying a N2  
 laser. **Analyte** mols. were detected as sodium or potassium  
 adduct ions and, in the case of proteins, as well as protonated mol.  
 ions.  
 Mass accuracies were comparable to those found with std. solid matrix  
 systems with -0.06 to +0.05 deviation in the reflectron mode and with  
 -0.24 to +0.13 in the linear mode. Useful results could be obtained  
 within a mass range of 15 000 Da for single-charged proteins and 8000 Da  
 for potassium cationized polyethylene glycols. **Detection** limits  
 were found for **hydrophilic** compds. in the low picomol range and  
 for lipophilic compds. as triacylglycerols or peracetylated and partially  
 benzylated carbohydrates in the low femtomol range. As shown by scanning  
 electron microscopic investigations, the generation of a thin homogeneous  
 matrix layer was essential for a successful mass spectrometric expt. A  
 very careful cleaning of the target surface with glacial acid prior to  
 matrix deposition improved the formation of such a matrix film that max.  
 sensitivity as well as good reproducibility of the expts. could be  
 achieved.  
 IT 9004-10-8, Insulin, **analysis** 25322-68-3,  
 Polyethyleneglycol  
 RL: ANT (Analyte); ANST (Analytical study)  
 (MALDI mass spectrometry of biomols. and synthetic polymers using  
 alkali hexacyanoferrate (II) **complexes** and glycerol as  
 matrix)  
 RN 9004-10-8 HCAPLUS  
 CN Insulin (9CI) (CA INDEX NAME)  
 \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*  
 RN 25322-68-3 HCAPLUS  
 CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX  
 NAME)



GABEL

09/403085

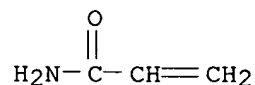
L24 ANSWER 13 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1997:532478 HCAPLUS  
DN 127:126294  
TI Reliable integrated electrochemical micro-sensors and micro-systems for  
the direct chemical **analysis** of compounds in **complex**  
aqueous media  
IN Buffle, Jacques; Tercier, Mary-Lou; Belmont, Cecile; Koudelka-Hep,  
Milena;  
Fiaccabrino, Giovanni Carlo  
PA Universite De Geneve, Switz.  
SO Eur. Pat. Appl., 17 pp.  
CODEN: EPXXDW  
DT Patent  
LA French  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	EP 780684	A1	19970625	EP 1996-119847	19961211
	R: CH, DE, GB, LI				
	FR 2742543	A1	19970620	FR 1995-15071	19951219
	FR 2742543	B1	19980213		
	US 5865972	A	19990202	US 1996-762342	19961209
PRAI	FR 1995-15071		19951219		
AB	An electrochem. micro-sampler using cells reactive to various chem. species has a coating of <b>hydrophilic</b> gels of polymers used to screen contaminants such as colloids and macromols. from the cells prior to voltametric <b>anal.</b>				
IT	9003-05-8, Polyacrylamide 9012-36-6, Agarose 25249-16-5 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) ( <b>hydrophilic</b> gel; reliable integrated electrochem. micro-sensors and micro-systems for the direct chem. <b>anal.</b> of compds. in <b>complex</b> aq. media)				
RN	9003-05-8 HCAPLUS				
CN	2-Propenamide, homopolymer (9CI) (CA INDEX NAME)				

CM 1

CRN 79-06-1

CMF C3 H5 N O



RN 9012-36-6 HCAPLUS  
CN Agarose (8CI, 9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 25249-16-5 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, homopolymer (9CI) (CA  
INDEX NAME)

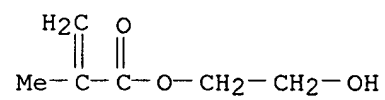
GABEL

09/403085

CM 1

CRN 868-77-9

CMF C6 H10 O3



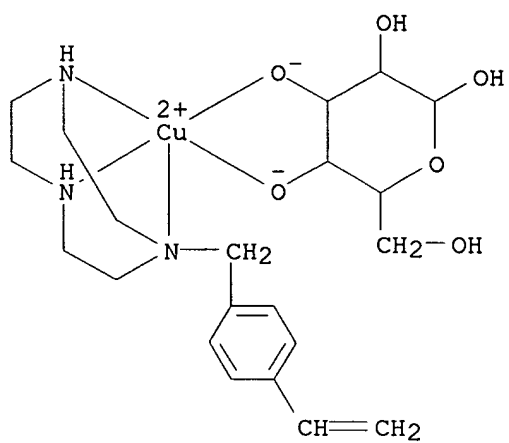
L24 ANSWER 14 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1997:252441 HCAPLUS  
DN 126:303407  
TI A glucose-sensing polymer  
AU Chen, Guohua; Sundaresan, Vidyasankar; Arnold, Frances H.  
CS Division of Chemistry and Chemical Engineering 210-41, California  
Institute of Technology, Pasadena, CA, 91125, USA  
SO Polym. Mater. Sci. Eng. (1997), 76, 378-379  
CODEN: PMSE DG; ISSN: 0743-0515  
PB American Chemical Society  
DT Journal  
LA English  
AB A robust, **Cu-complexing** polymer (TACN-Cu<sup>2+</sup> contg.) is described that can be used to monitor glucose concn. in **complex** biol. samples, e.g., blood plasma. The approach to monitor glucose concn. uses ligand exchange on the TACN-Cu<sup>2+</sup> **complex** which is incorporated into a **hydrophilic**, porous polymer matrix to provide a platform for a sensor. A polymerizable styryl-TACN-Cu<sup>2+</sup> **complex** was synthesized as the functional monomer that was crosslinked by N,N'-methylenebisacrylamide to produce a microporous polymer that still binds glucose but excludes larger mols. such as glycoproteins that might otherwise bind to the metal **complex**. This approach, which combines metal coordination/chelation for sugar binding, ligand exchange for signal transduction, and mol. imprinting to create a polymer platform and potentially enhance binding selectivity, is promising for developing simple, stable, and inexpensive sensors for monitoring glucose concns. in clin. diagnostic and bioprocess applications.

IT **182509-69-9P**  
RL: ARG (Analytical reagent use); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); PROC (Process); USES (Uses)  
(glucose-sensing polymer prepn. for blood **anal.**)

RN 182509-69-9 HCAPLUS  
CN Copper, [1-[(4-ethenylphenyl)methyl]octahydro-1H-1,4,7-triazonine-.kappa.N1,.kappa.N4,.kappa.N7][.beta.-D-glucopyranosato(2-)-.kappa.O3,.kappa.O4]-, polymer with N,N'-methylenebis[2-propenamide]  
(9CI)  
(CA INDEX NAME)

CM 1

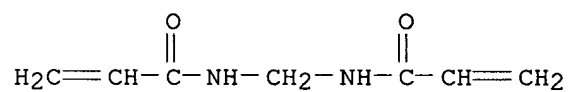
CRN 182306-49-6  
CMF C21 H33 Cu N3 O6  
CCI CCS  
CDES \*



CM 2

CRN 110-26-9

CMF C7 H10 N2 O2



L24 ANSWER 15 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1997:149764 HCAPLUS  
DN 126:268015  
TI A nitrite microsensor for profiling environmental biofilms  
AU de Beer, Dirk; Schramm, Andreas; Santegoeds, Cecilia M.; Kuehl, Michael  
CS Max Planck Inst. Marine Microbiology, Bremen, Germany  
SO Appl. Environ. Microbiol. (1997), 63(3), 973-977  
CODEN: AEMIDF; ISSN: 0099-2240  
PB American Society for Microbiology  
DT Journal  
LA English  
AB A highly selective liq. membrane nitrite microsensor based on the hydrophobic ion carrier aquocyano-**cobalt**(III)-hepta(2-phenylethyl)-cobrylate is described. The sensor has a tip diam. of 10-15 .mu.m. The response is log-linear in freshwater down to 1 .mu.M NO2- and in seawater to 10 .mu.M NO2-. A method is described for prepn. of relatively large polyvinyl chloride (PVC)-gelled liq. membrane microsensors with a tip diam. of 5-15 .mu.m, having a **hydrophilic** coating on the tip. The coating and increased tip diam. resulted in more sturdy sensors, with a lower **detection** limit and a more stable signal than uncoated nitrite sensors with a tip diam. of 1-3 .mu.m. The coating protects the sensor membrane from detrimental direct contact with biomass and can be used for all PVC-gelled liq. membrane sensors meant for profiling microbial mats, biofilms, and sediments. Thanks to these improvements, liq. membrane sensors can now be used in **complex** environmental samples and in situ, e.g., in operating bioreactors. Examples of measurements in denitrifying, nitrifying, and nitrifying/denitrifying biofilms from wastewater treatment plants are shown. In all of these biofilms high nitrite concns. were found in narrow zones of <1 mm.  
IT **9002-86-2**, Polyvinyl chloride  
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)  
(nitrite microsensor for profiling environmental biofilms)  
RN 9002-86-2 HCAPLUS  
CN Ethene, chloro-, homopolymer (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 75-01-4  
CMF C2 H3 Cl

H<sub>2</sub>C=CH-Cl

L24 ANSWER 16 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1996:606587 HCAPLUS  
DN 125:277320  
TI Sorption of arsenic anions onto poly(ethylene mercaptoacetimide)  
AU Styles, Patricia M.; Chanda, M.; Rempel, G. L.  
CS Department of Chemical Engineering, University of Waterloo, Waterloo, ON,  
N2L 3G1, Can.  
SO React. Funct. Polym. (1996), 31(2), 89-102  
CODEN: RFPOF6; ISSN: 1381-5148  
DT Journal  
LA English  
AB A **hydrophilic** thiol resin, poly(ethylene mercaptoacetimide)  
(PEM), has been prep'd. from branched poly(ethyleneimine) of mol. wt.  
40,000-60,000 by Schotten-Baumann reaction using mercaptoacetyl chloride.  
The resin, with a free mercaptan content of 8.26 meq/g and a std.  
potential of 0.217 V, as **detd.** by electrochem. measurements,  
exhibits spontaneous redox sorption of arsenate anions in acidic medium.  
The satn. capacity for arsenate is 106 **mg** As/g dry resin at pH  
2. The resin, however, sorbs arsenite anions only in alk. medium and  
shows a satn. capacity of 30 **mg** As/g dry resin at pH 8. In  
addn. to redox sorptions, a significant amt. of arsenic sorption appears  
to take place via alternative mechanisms such as **complexation** by  
thiol and anion exchange on protonated amine sites of the branched PEM.  
The sorption of both arsenate and arsenite is significantly reduced by  
the presence of salts, NaCl and Na2SO4, in soln. The sorption kinetics are  
controlled by the diffusion of arsenical anions in the resin particle.  
The sorbed arsenic species are readily stripped by 0.2 N NH4OH and the  
stripped resin in the oxidized (disulfide) form is reconverted to the  
active thiol form by treatment with an excess of 10% sodium bisulfite  
soln.  
IT **9002-98-6D**, reaction products with mercaptoacetyl chloride  
RL: PRP (Properties)  
(sorption of arsenic anions onto poly(ethylene mercaptoacetimide))  
RN 9002-98-6 HCAPLUS  
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 151-56-4  
CMF C2 H5 N



L24 ANSWER 17 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1996:592430 HCAPLUS  
DN 125:346313  
TI Polymer pendant ligand chemistry-5. The selective and competitive removal of Ag<sup>+</sup>, Hg<sup>2+</sup>, Cu<sup>2+</sup> and Cd<sup>2+</sup> ions from aqueous solution utilizing a N-sulfonylethylenebis(dithiocarbamate) ligand anchored on macroporous polystyrene-divinylbenzene beads  
AU Huang, Song-Ping; Franz, Katherine J.; Arnold, Eunice H.; Devenyi, Jozsef;  
Fisyh, Richard H.  
CS Lawrence Berkeley Natl. Lab., Univ. California, Berkeley, CA, 94720, USA  
SO Polyhedron (1996), 15(23), 4241-4254  
CODEN: PLYHDE; ISSN: 0277-5387  
DT Journal  
LA English  
AB An important new focus for environmental inorg. chem. is the selective removal and recovery of metal ions from aq. soln. with org. ligands anchored to modified polymer backbones. Several significant criteria for facile metal ion removal from aq. soln. includes the **hydrophilicity** of the pendant org. ligand when it is anchored to a hydrophobic, pH stable polymer backbone such as modified, macroporous polystyrene-divinylbenzene beads, as well as the kinetics and thermodyn.  
of the pendant ligand reaction with the selected metal ion. The authors report on an example of a polymer pendant ligand that is highly selective for the removal of metal ions from aq. soln. at pH 3.0 in a competitive environment. Thus, a predisposed polymer pendant N-sulfonylethylenebis(dithiocarbamate) ligand (PS-SED, 1.12 mmol/g), anchored on modified, macroporous 6% polystyrene-divinylbenzene beads,  
was synthesized and is highly selective for the removal of Ag<sup>+</sup> ions (2.17 mmol/g, 2:1 Ag<sup>+</sup>/PS-SED **complex**, t<sub>1/2</sub> = 7 min) from aq. soln. at pH 3.0 in the presence of a variety of competing tri- and divalent metal ions such as Fe<sup>3+</sup>, Cr<sup>3+</sup>, Al<sup>3+</sup>, Cu<sup>2+</sup>, Ni<sup>2+</sup>, Zn<sup>2+</sup>, Mg<sup>2+</sup>, and Pb<sup>2+</sup>. When Hg<sup>2+</sup> ions (1.24 mmol/g, 1:1 Hg<sup>2+</sup>/PS-SED **complex**, t<sub>1/2</sub> = 10 min) are added to this mixt. of metal ions, including Ag<sup>+</sup> ions, there is a pronounced selectivity toward Hg<sup>2+</sup> ions for the PS-SED ligand. In the absence of Ag<sup>+</sup> and Hg<sup>2+</sup>, then Pb<sup>2+</sup> ions (1.06 mmol/g, 1:1 Pb<sup>2+</sup>/PS-SED **complex**, t<sub>1/2</sub> = 6 min) are moderately selective in the presence of other competing metal ions including Cd<sup>2+</sup> ions; Cu<sup>2+</sup> ions are the exception (0.93 mmol/g, .apprx.1:1 Cu<sup>2+</sup>/PS-SED **complex**, t<sub>1/2</sub> = 3 min). As well, in the absence of Pb<sup>2+</sup> ions, Cd<sup>2+</sup> ions (0.65 mmol/g, .apprx.1:1 Cd<sup>2+</sup>/PS-SED **complex**, t<sub>1/2</sub> .gtoreq. 10 min) also are moderately selective in the presence of other competing metal ions; but again, Cu<sup>2+</sup> is the exception. Whereas Cu<sup>2+</sup> has a selectivity over Pb<sup>2+</sup> and Cd<sup>2+</sup> in a competitive reaction, Fe<sup>3+</sup> ion is more selective in competition with Cu<sup>2+</sup>, while in competition with Fe<sup>3+</sup> ion, Ag<sup>+</sup>, Hg<sup>2+</sup>,  
Pb<sup>2+</sup> and Cd<sup>2+</sup> are all more selective. The overall selectivity is: Hg<sup>2+</sup> .gtoreq. Ag<sup>+</sup> > Cu<sup>2+</sup> > Pb<sup>2+</sup> > Cd<sup>2+</sup> > Fe<sup>3+</sup> .apprx. Al<sup>3+</sup> .apprx. Cr<sup>3+</sup> > Ni<sup>2+</sup> > Zn<sup>2+</sup> .apprx. Co<sup>2+</sup> > Mn<sup>2+</sup> .mchgt. Mg<sup>2+</sup>. Also, a facile recovery of Ag<sup>+</sup>, Cu<sup>2+</sup>, and Cd<sup>2+</sup> ions from the resp. metal-ion-PS-SED **complexes** on the beads were readily accomplished (.apprx.99% recovery) using a 10% NaCN

soln. at pH 11. A full discussion of these results will be presented.

IT **9003-70-7DP**, Polystyrene-divinylbenzene copolymer,  
 N-sulfonylethylenebis(dithiocarbamate) modified  
 RL: ARU (Analytical role, unclassified); NUU (Nonbiological use,  
 unclassified); SPN (Synthetic preparation); ANST (Analytical study); PREP  
 (Preparation); USES (Uses)  
 (selective and competitive removal of Ag<sup>+</sup>, Hg<sup>2+</sup>, Cu<sup>2+</sup> and Cd<sup>2+</sup> ions  
 from aq. soln. utilizing N-sulfonylethylenebis(dithiocarbamate) ligand  
 anchored on macroporous polystyrene-divinylbenzene beads)

RN 9003-70-7 HCAPLUS

CN Benzene, diethenyl-, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

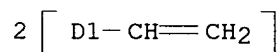
CM 1

CRN 1321-74-0

CMF C10 H10

CCI IDS

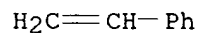
CDES 8:ID



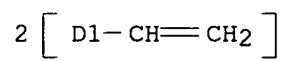
CM 2

CRN 100-42-5

CMF C8 H8



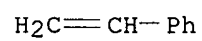
L24 ANSWER 18 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1996:246608 HCAPLUS  
DN 124:359296  
TI The comparative investigation of several stationary phases containing iminodiacetic functional groups for the high performance chelating exchange chromatography  
AU Nesterenko, P.; Jones, P.  
CS Dep. Chem., Lomonosov Moscow State Univ., Moscow, 119899, Russia  
SO J. Liq. Chromatogr. Relat. Technol. (1996), 19(7), 1033-45  
CODEN: JLCTFC; ISSN: 1082-6076  
DT Journal  
LA English  
AB Three chelating ion-exchangers having iminodiacetic acid functional groups immobilized at the surface of different substrates (silica gel, **hydrophilic** and hydrophobic polymer matrixes) were compared for the sepn. of various alk.-earth and **transition metal** ions. The retention of metal ions on two com. available Diasorb IDA silica (250 mm .times. 4 mm id.) and Tosoh TSK Gel Chelate 5 PW (75 x 7 mm id.) columns and column packed with poly(styrene-divinylbenzene) substrate coated with Phthalein Purple dye was studied in maleate, tartrate and oxalate mobile phases. Metal-ion retention increased with pH and with a decrease in eluent concn. The **complexing** ability of ion-exchangers decreased in the order IDA-**complexing** ability of ion-exchangers decreased in the order IDA-silica > TSK Gel Chelate 5 PW > polystyrene-divinylbenzene coated with Phthalein Purple dye. The selectivity of sepn. was similar for IDA-silica and TSK Gel Chelate 5 PW and was slightly different for the dye coated column. The chromatog. sepn. of metal ions is demonstrated in oxalate and tartrate mobile phases.  
IT **9003-70-7**, Poly(styrene-divinylbenzene)  
RL: ARU (Analytical role, unclassified); ANST (Analytical study) (phthalein purple coated; comparative investigation of several stationary phases contg. iminodiacetic functional groups for high performance chelating exchange chromatog.)  
RN 9003-70-7 HCAPLUS  
CN Benzene, diethenyl-, polymer with ethenylbenzene (9CI) (CA INDEX NAME)  
CM 1  
CRN 1321-74-0  
CMF C10 H10  
CCI IDS  
CDES 8:ID



CM 2

CRN 100-42-5

CMF C8 H8



L24 ANSWER 19 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
 AN 1995:994994 HCAPLUS  
 DN 124:49699  
 TI Gas-filled microspheres as magnetic resonance imaging (MRI) contrast agents  
 IN Unger, Evan C.  
 PA USA  
 SO PCT Int. Appl., 111 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 19

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9524184	A1	19950914	WO 1995-US2782	19950310
	W: AU, CA, CN, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5922304	A	19990713	US 1995-401974	19950309
	AU 9521573	A1	19950925	AU 1995-21573	19950310
	EP 797433	A1	19971001	EP 1995-914685	19950310
	R: DE, FR, GB				
	JP 09510204	T2	19971014	JP 1995-523574	19950310
PRAI	US 1994-212553		19940311		
	US 1995-401974		19950309		
	US 1989-455707		19891222		
	US 1990-569828		19900820		
	US 1991-716899		19910618		
	US 1991-717084		19910618		
	US 1991-569828		19910820		
	US 1993-76239		19930611		
	US 1993-76250		19930611		
	US 1993-159674		19931130		
	US 1993-159687		19931130		
	US 1993-160232		19931130		
	US 1994-307305		19940916		
	WO 1995-US2782		19950310		

AB Gas-filled microspheres are provided which are useful as MRI contrast agents. The gas is a biocompatible gas, e.g. nitrogen, or is derived from a gaseous precursor, e.g. perfluorooctyl bromide. The microspheres are stabilized by being formed from a stabilizing compd., e.g. a biocompatible lipid or polymer. Also disclosed are methods for prepg. the microspheres, as well as imaging methods (for e.g. cardiovascular or gastrointestinal regions) using the microspheres.

IT 9000-07-1, Carrageenan 9000-69-5, Pectin 9002-84-0, Polytetrafluoroethylene 9002-86-2, Polyvinyl chloride 9002-88-4 9002-89-5D, Polyvinyl alcohol, lipids bearing 9003-07-0, Polypropylene 9003-39-8D, Polyvinylpyrrolidone, lipids bearing 9003-53-6 9004-34-6, Cellulose, biological studies 9004-54-0, Dextran, biological studies 9004-61-9D, Hyaluronic acid, lipids bearing 9005-32-7, Alginate acid 9005-79-2, Glycogen, biological

studies 9005-82-7, Amylose 9007-27-6, Chondroitin  
9011-14-7, Polymethyl methacrylate 9012-36-6, Agarose  
9012-72-0, Glucan 9013-95-0, Levan 9014-63-5,  
Xylan 9036-88-8, Mannan 9037-22-3, Amylopectin  
9037-55-2, Galactan 9037-90-5, Fructan 9046-38-2  
, Galacturonan 9046-40-6, Pectic acid 9057-02-7,  
Pullulan 9072-19-9, Fucoidan 11138-66-2, Xanthan gum  
24937-47-1, Polyarginine 25038-59-9, Polyethylene  
terephthalate, biological studies 25104-18-1, Polylysine  
25212-18-4, Polyarginine 25322-68-3 25322-68-3D  
, lipids bearing 25322-69-4D, lipids bearing 26023-30-3  
, Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)] 26100-51-6,  
Polylactic acid 38000-06-5, Polylysine 60495-58-1,  
Galactocarolose

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(gas-filled microspheres for MRI contrast agents)

RN 9000-07-1 HCAPLUS

CN Carrageenan (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9000-69-5 HCAPLUS

CN Pectin (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

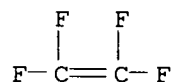
RN 9002-84-0 HCAPLUS

CN Ethene, tetrafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 116-14-3

CMF C2 F4



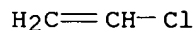
RN 9002-86-2 HCAPLUS

CN Ethene, chloro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 75-01-4

CMF C2 H3 Cl



RN 9002-88-4 HCAPLUS

CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

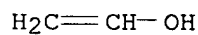
CRN 74-85-1  
CMF C2 H4



RN 9002-89-5 HCAPLUS  
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

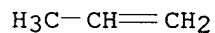
CRN 557-75-5  
CMF C2 H4 O



RN 9003-07-0 HCAPLUS  
CN 1-Propene, homopolymer (9CI) (CA INDEX NAME)

CM 1

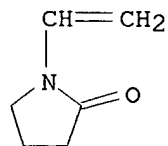
CRN 115-07-1  
CMF C3 H6



RN 9003-39-8 HCAPLUS  
CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 88-12-0  
CMF C6 H9 N O

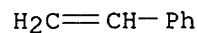


RN 9003-53-6 HCAPLUS  
CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5

CMF C8 H8



RN 9004-34-6 HCAPLUS  
CN Cellulose (8CI, 9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9004-54-0 HCAPLUS  
CN Dextran (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9004-61-9 HCAPLUS  
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9005-32-7 HCAPLUS  
CN Alginic acid (8CI, 9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9005-79-2 HCAPLUS  
CN Glycogen (8CI, 9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9005-82-7 HCAPLUS  
CN Amylose (8CI, 9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

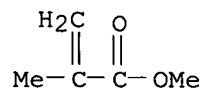
RN 9007-27-6 HCAPLUS  
CN Chondroitin (8CI, 9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9011-14-7 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 80-62-6  
CMF C5 H8 O2



RN 9012-36-6 HCAPLUS  
CN Agarose (8CI, 9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9012-72-0 HCAPLUS

CN D-Glucan (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9013-95-0 HCAPLUS

CN Levan (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9014-63-5 HCAPLUS

CN Xylan (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9036-88-8 HCAPLUS

CN D-Mannan (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9037-22-3 HCAPLUS

CN Amylopectin (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9037-55-2 HCAPLUS

CN D-Galactan (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9037-90-5 HCAPLUS

CN D-Fructan (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9046-38-2 HCAPLUS

CN D-Galacturonan (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9046-40-6 HCAPLUS

CN Pectic acid (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9057-02-7 HCAPLUS

CN Pullulan (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9072-19-9 HCAPLUS

CN Fucoidan (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

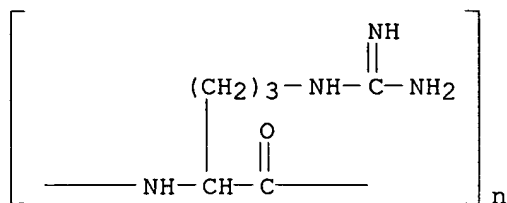
RN 11138-66-2 HCAPLUS

CN Xanthan gum (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 24937-47-1 HCAPLUS

CN Poly[imino[(1S)-1-[3-[(aminoiminomethyl)amino]propyl]-2-oxo-1,2-ethanediyl]] (9CI) (CA INDEX NAME)

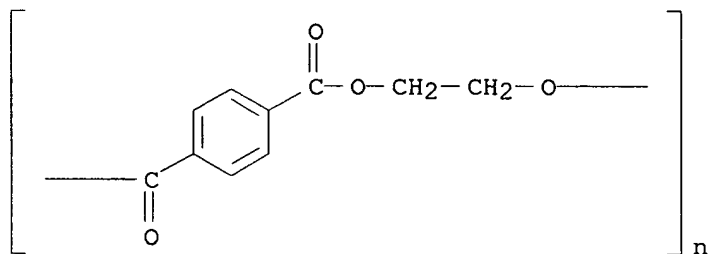


RN 25038-59-9 HCAPLUS

CN Poly(oxy-1,2-ethanediylloxycarbonyl-1,4-phenylenecarbonyl) (9CI) (CA

INDEX

NAME)



RN 25104-18-1 HCAPLUS

CN L-Lysine, homopolymer (9CI) (CA INDEX NAME)

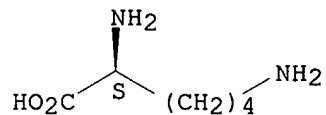
CM 1

CRN 56-87-1

CMF C6 H14 N2 O2

CDES 5:L

Absolute stereochemistry.



RN 25212-18-4 HCAPLUS

CN L-Arginine, homopolymer (9CI) (CA INDEX NAME)

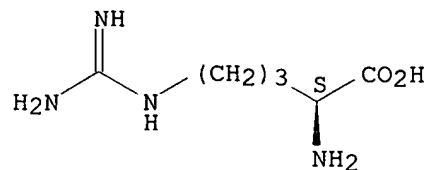
CM 1

CRN 74-79-3

CMF C6 H14 N4 O2

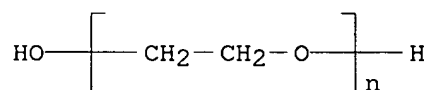
CDES 5:L

Absolute stereochemistry.



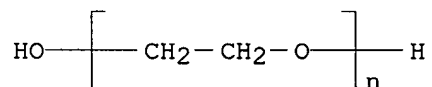
RN 25322-68-3 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



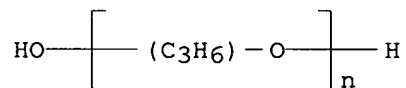
RN 25322-68-3 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



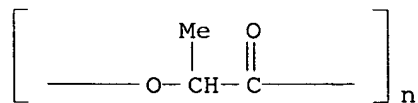
RN 25322-69-4 HCAPLUS

CN Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 26023-30-3 HCAPLUS

CN Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)] (8CI, 9CI) (CA INDEX NAME)

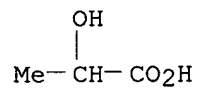


RN 26100-51-6 HCAPLUS

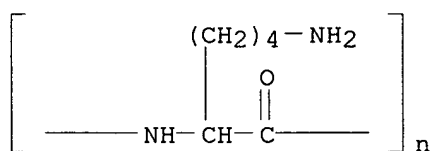
CN Propanoic acid, 2-hydroxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 50-21-5  
CMF C3 H6 O3



RN 38000-06-5 HCAPLUS  
CN Poly[imino[(1S)-1-(4-aminobutyl)-2-oxo-1,2-ethanediyl]] (9CI) (CA INDEX NAME)



RN 60495-58-1 HCAPLUS  
CN Galactocarolose (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L24 ANSWER 20 OF 55 HCAPLUS COPYRIGHT 2001 ACS

AN 1995:471865 HCAPLUS

DN 122:222861

TI Biodegradable particles for diagnosis and therapy

IN Gref, Ruxandra; Minamitake, Yoshiharu; Langer, Robert S.

PA Massachusetts Institute of Technology, USA

SO PCT Int. Appl., 51 pp.

CODEN: PIXXD2

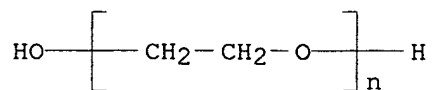
DT Patent

LA English

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9503357	A1	19950202	WO 1994-US8416	19940722
	W: CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5543158	A	19960806	US 1993-96370	19930723
	US 5565215	A	19961015	US 1994-210677	19940318
	EP 710261	A1	19960508	EP 1994-922733	19940722
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT,				
SE	JP 09504042	T2	19970422	JP 1994-505393	19940722
PRAI	US 1993-96370		19930723		
	US 1994-210677		19940318		
	WO 1994-US8416		19940722		
AB	<p>Particles are provided that are not rapidly cleared from the blood stream by the macrophages of the reticuloendothelial system, and that can be modified to achieve variable release rates or to target specific cells or organs. The particles have a biodegradable solid core contg. a biol. active material and poly(alkylene glycol) moieties on the surface. The terminal hydroxyl group of the poly(alkylene glycol) can be used to covalently attach onto the surface of the particles biol. active mols., including antibodies targeted to specific cells or organs, or mols. affecting the charge, lipophilicity, or <b>hydrophilicity</b> of the particle. The surface of the particle can also be modified by attaching biodegradable polymers of the same structure as those forming the core of the particles. The typical size of the particles is 1-1000 nm, preferably 1-100 nm, although microparticles can also be formed similarly. The particles can include magnetic particles or radiopaque materials, such as air and other gases, for diagnostic imaging, biol. active mols. to be delivered to a site, or compds. for targeting the particles. The particles have a prolonged half-life in the blood compared to particles not contg. poly(alkylene glycol) moieties on the surface. Thus, a diblock copolymer was prep'd. by polymn. of lactide and glycolide onto PEG. A soln. of this copolymer 25 and lidocaine 25 mg was dissolved in 2 mL CH<sub>2</sub>Cl<sub>2</sub> and emulsified in water, and nanospheres were prep'd. by evapn. of the CH<sub>2</sub>Cl<sub>2</sub> and centrifuging. Lidocaine was released continuously from these particles into water (90% after 10 h).</p>				
IT	<p><b>25322-68-3D</b>, PEG, block copolymers <b>34346-01-5D</b>, Lactic acid/glycolic acid copolymer, block copolymers with polyoxyalkylenes            RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)</p>				

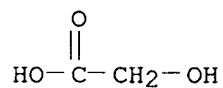
(biodegradable particles for diagnosis and therapy)  
RN 25322-68-3 HCAPLUS  
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 34346-01-5 HCAPLUS  
CN Propanoic acid, 2-hydroxy-, polymer with hydroxyacetic acid (9CI) (CA INDEX NAME)

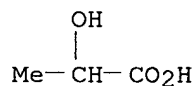
CM 1

CRN 79-14-1  
CMF C2 H4 O3



CM 2

CRN 50-21-5  
CMF C3 H6 O3



IT **162068-58-8P**  
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(diblock; biodegradable particles for diagnosis and therapy)  
RN 162068-58-8 HCAPLUS

L24 ANSWER 21 OF 55 HCAPLUS COPYRIGHT 2001 ACS

AN 1995:448968 HCAPLUS

DN 122:234651

TI Capillary electrophoresis of carboxylated carbohydrates. I. Selective precolumn derivatization of gangliosides with UV absorbing and fluorescent tags

AU Mechref, Yehia; Ostrander, Gary K.; El Rassi, Ziad

CS Department of Chemistry, Oklahoma State University, Stillwater, OK, 74078, USA

SO J. Chromatogr., A (1995), 695(1), 83-95

CODEN: JCRAEY

DT Journal

LA English

AB The authors demonstrate that the precolumn derivatization reaction, recently introduced by them for the selective labeling of carboxylated monosaccharides, can be readily transposed to other glycoconjugates contg.

carboxylated sugar residues, namely sialogangliosides. The selective derivatization reaction described here involved the attachment of sulfanilic acid (a UV-absorbing tag) or 7-aminonaphthalene-1,3-disulfonic acid (a UV-absorbing and also fluorescing tag) to the sialic acid moiety of the gangliosides via the carboxylic group in the presence of water-sol.

carbodiimide. This labeling of the sialic acid moiety of the gangliosides

with a chromophore and/or fluorophore **leads** to the formation of an amide bond between the carboxylic group of the sugar residue and the amino group of the derivatizing agent, thus replacing the weak carboxylic acid group of the carbohydrate species by the stronger sulfonic acid group

which is ionized over the entire pH range. Furthermore, novel electrolyte

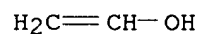
systems were introduced and evaluated for the sepn. of the derivatized and

underivatized gangliosides. Addn. of acetonitrile or .alpha.-cyclodextrin

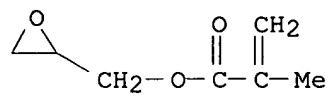
(.alpha.-CD) to the running electrolyte was necessary to break up the aggregation of amphiphilic gangliosides and allowed for their efficient sepn. as monomers in aq. media using capillary electrophoresis. Several operating parameters were investigated with these electrolyte systems including the additive concn. as well as the ionic strength, pH and nature

of the running electrolyte. Acetonitrile at 50% (vol./vol.) in 5 mM sodium phosphate at high and low pH or 15 mM .alpha.-CD in 100 mM sodium borate, pH 10.0, proved ideal, in terms of resolu. and sepn. efficiency, for the group sepn. of mono-, di- and trisialogangliosides. The complete resolu. of disialoganglioside isomers (e.g., GD1a and GD1b) necessitated the superimposition of a chromatog. component on the electrophoretic process. This was achieved by adding either a hydrophobic (e.g., decanoyl-N-methylglucamide-borate surfactant **complex**) or **hydrophilic** [e.g., poly(vinyl alc.) or hydroxypropyl cellulose] selectors to the running electrolyte.

IT 9002-89-5, Poly(vinyl alcohol)  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(selective precolumn derivatization of gangliosides with UV absorbing  
and fluorescent tags for capillary electrophoresis)  
RN 9002-89-5 HCAPLUS  
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 557-75-5  
CMF C2 H4 O



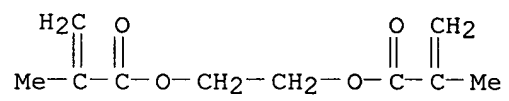
L24 ANSWER 22 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1994:714895 HCAPLUS  
DN 121:314895  
TI Two-Dimensional High-Performance Liquid Chromatography Using Monodisperse Polymer Beads Containing Segregated Chemistries Prepared by Pore Size Specific Functionalization. Single-Column Combinations of Size Exclusion or Ion Exchange with Reversed-Phase Chromatography  
AU Smigol, Vladimir; Svec, Frantisek; Frechet, Jean M. J.  
CS Department of Chemistry, Cornell University, Ithaca, NY, 14853-1301, USA  
SO Anal. Chem. (1994), 66(23), 4308-15  
CODEN: ANCHAM; ISSN: 0003-2700  
DT Journal  
LA English  
AB Sepn. media for the complete sepn. of **complex** samples that require a combination of size exclusion or ion-exchange with reversed-phase chromatog. modes in a single column have been prepd. from size monodisperse 10 mm poly(glycidyl methacrylate-**co**-ethylene dimethacrylate) beads using a pore size specific functionalization process. To achieve the first combination of chromatog. modes, the large pores of the beads were selectively hydrolyzed to diols using aq. poly(styrenesulfonic acid), while highly hydrophobic octadecyl groups were introduced into the small pores by reaction of the remaining epoxide groups with octadecylamine. These beads provide excellent protein recoveries and may be used for the direct injection sepn. of samples contg. both **hydrophilic** proteins and hydrophobic drugs. Beads contg. diethylamino groups in the large pores and octadecyl functionalities in the small pores were also prepd. by size-selective modification. A plot of log k' against ionic strength of the mobile phase for these beads shows the absence of hydrophobic interactions and documents the clean ion-exchange mechanism of protein sepn. Examn. of the small pores in both types of sepn. media confirmed that their hydrophobicity was sufficient to allow the sepns. of small mols. in reversed-phase mode. Column packed with these dual-chem. beads exhibited high efficiencies and were used successfully for the sepns. of proteins and alkylbenzenes or drugs.  
IT **31743-77-8**  
RL: ARU (Analytical role, unclassified); ANST (Analytical study) (beads; two-dimensional HPLC using monodisperse polymer beads contg. segregated chemistries prepd. by pore size specific functionalization)  
RN 31743-77-8 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)  
CM 1  
CRN 106-91-2  
CMF C7 H10 O3



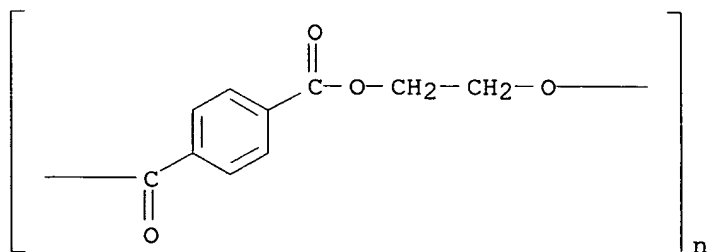
CM 2

CRN 97-90-5

CMF C10 H14 O4



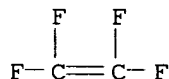
L24 ANSWER 23 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
 AN 1994:581828 HCAPLUS  
 DN 121:181828  
 TI **Analytical** studies of the alkalization of polyester and wool  
 AU Daniel, Erwin  
 CS Germany  
 SO Text. Prax. Int. (1993), 48(11), 902-5  
 CODEN: TXPIAT; ISSN: 0340-5028  
 DT Journal  
 LA German  
 AB In many respects the behavior of textiles to water and aq. treatment  
 mediums decides their applicability and their rate of processing in  
 finishing. The surface energy, in direct correlation with the polarity  
 of the surface, **dets.** the **hydrophilicity** and, therefore,  
 the wetting properties. Fiber optic transparency measurements of wetting  
 as an instantaneous reaction provides information about changes in fiber  
 surfaces not only by chem. modification but also by the sorption of  
 adsorbates. The hydrophobic behavior of polyester fibers, characterized  
 by high wetting angles, is reduced through alkalization. The optics,  
 haptics, adhesion of sizes, the rate of dyeing, and affinity for dyes are  
 improved. In the case of wool, the cuticle, because of its  
 hydrophobicity, acts as a diffusion barrier for an aq. treatment medium.  
 Alkalization produces **complex** changes in the fibers. In addn.  
 to increasing the wettability as a result of increasing surface energy, a  
 degrdn. of cystine bonds occurs. The addn. of stabilizers lowers the  
 risk of fiber degrdn. at the cost of finishing effects. Catalysis processes  
 with cation active compds. are detectable with both types of fibers. The  
 alkalization of wool accelerates the rate of dyeing by increasing the  
 accessibility of the surface and **leads** to a redn. of energy  
 costs by lowering the dyeing temp.  
 IT 25038-59-9, Poly(ethylene terephthalate), miscellaneous  
 RL: USES (Uses)  
 (fiber, alkalization of, fiber optic transparency measurements for  
**anal.** and control of)  
 RN 25038-59-9 HCAPLUS  
 CN Poly(oxy-1,2-ethanediylloxycarbonyl-1,4-phenylenecarbonyl) (9CI) (CA  
 INDEX  
 NAME)



GABEL

09/403085

L24 ANSWER 24 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
 AN 1994:510783 HCAPLUS  
 DN 121:110783  
 TI Thermal and catalytic behavior of grafted poly(tetrafluoroethylene) (PTFE)  
 pretreated with some **transition metal** nitrates  
 AU El-Sawy, N. M.; Fagal, G. A.  
 CS Natl. Cen. Radiat. Res. Technol., Nasr City, Egypt  
 SO Bull. Natl. Res. Cent. (Egypt) (1993), 18(1), 31-42  
 CODEN: BNRKET  
 DT Journal  
 LA English  
 AB A hydrophobic PTFE solid material has been grafted with acrylic acid (AAC)  
 via exposure to a dose of 20 KGy; the obtained **hydrophilic** solid (PTFE-g-PAAc) was impregnated with a soln. contg. a known amt. of nitrate of **cobalt, copper, iron** or **nickel**.  
 The extent of loading of metal species was fixed at 16 wt. %, expressed as  
 metal oxide. DTA, XRD, IR and catalysis of carbon monoxide oxidn. reaction with oxygen have been carried out on the various prepd. solids. The results of thermal **anal.** revealed that very strong exothermic peaks were detected in the DTA curves at 260-290.degree. for **Fe, Co, Cu** species and 340.degree. for **Ni** species. These strong peaks characterize the thermal decompn. of metal ligand with subsequent formation of free amorphous phases. The catalytic activities measured at 200.degree. for different solids heated in vacuum at 240.degree. have been found to vary in the following sequence: **Co > Cu** .mchgt. **Fe > Ni**.  
 These results were attributed to the extent of different **transition metal** cations involved in ligand formation, their thermal stability, and the specific activity of the corresponding phases produced.  
 IT **108594-60-1DP**, Acrylic acid-tetrafluoroethylene graft copolymer, **complexes with transition metals**  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. and thermal **anal.** and oxidn. catalytic activity of)  
 RN 108594-60-1 HCAPLUS  
 CN 2-Propenoic acid, polymer with tetrafluoroethene, graft (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 116-14-3  
 CMF C2 F4

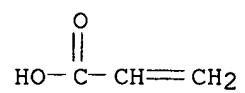


CM 2

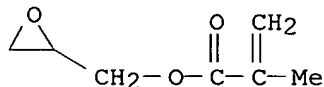
GABEL

09/403085

CRN 79-10-7  
CMF C3 H4 O2



L24 ANSWER 25 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1994:425983 HCAPLUS  
DN 121:25983  
TI High-Performance Liquid Chromatography of **Complex** Mixtures Using  
Monodisperse Dual-Chemistry Polymer Beads Prepared by a  
Pore-Size-Specific  
Functionalization Process. A Single Column Combination of Hydrophobic  
Interaction and Reversed-Phase Chromatography  
AU Smigol, Vladimir; Svec, Frantisek; Frechet, Jean M. J.  
CS Department of Chemistry, Cornell University, Ithaca, NY, 14853-1301, USA  
SO Anal. Chem. (1994), 66(13), 2129-38  
CODEN: ANCHAM; ISSN: 0003-2700  
DT Journal  
LA English  
AB A novel sepn. medium for HPLC combining hydrophobic interaction and  
reversed-phase sepn. modes in a single column has been prepd. from  
monodisperse 10-.mu.m poly(glycidyl methacrylate-**co**-ethylene  
dimethacrylate) beads using a pore-size-specific functionalization  
process. In this approach, the large pores of each bead were provided  
with Ph groups interspersed among **hydrophilic** functionalities  
while a much higher surface concn. of hydrophobic Ph groups was  
introduced  
into the small pores. Due to the size-specific character of the  
modification process, no protein interaction with any highly hydrophobic  
surface was obsd. during chromatog. The beads were used for the sepn. of  
samples contg. both proteins and small hydrocarbon or drug mols. A plot  
of log k' against salt concn. in the mobile phase clearly documents the  
clean hydrophobic interaction mechanism of protein sepn. and the absence  
of charged groups while the linear plot of log k' against acetonitrile  
concn. for numerous compds. demonstrates the reversed-phase sepn.  
ability.  
No decrease of the efficiency of the test column (23,000 plates/m) was  
obsd. in long-term expts. during which more than 1000 injections and many  
changes between the modes were performed.  
IT **31743-77-8**, Glycidylmethacrylate ethylene dimethacrylate copolymer  
RL: ANST (Analytical study)  
(pore-size-specific functionalized beads of, as PHLC stationary phase)  
RN 31743-77-8 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with  
oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 106-91-2  
CMF C7 H10 O3



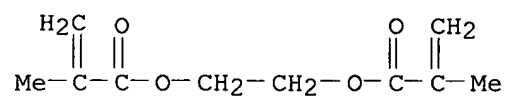
CM 2

GABEL

09/403085

CRN 97-90-5

CMF C10 H14 O4



L24 ANSWER 26 OF 55 HCAPLUS COPYRIGHT 2001 ACS

AN 1994:239683 HCAPLUS

DN 120:239683

TI Preparation of controlled-size inorganic particles for use in separations,

assays, as magnetic molecular switches, and as inorganic liposomes for medical applications

IN Chagnon, Mark S.; Carter, Michelle J.; Ferris, John R.; Gray, Maria A.; Hamilton, Tracy J.; Rudd, Edwin A.

PA Molecular Bioquest, Inc., USA

SO PCT Int. Appl., 101 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 7

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9326019	A1	19931223	WO 1993-US5595	19930608
	W: CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5935866	A	19990810	US 1992-894260	19920608
	US 5389377	A	19950214	US 1992-958646	19921007
	US 5441746	A	19950815	US 1993-57687	19930505
	EP 645048	A1	19950329	EP 1993-915304	19930608
	R: DE, FR, GB, SE				
	JP 08500700	T2	19960123	JP 1993-501742	19930608
PRAI	US 1992-894260		19920608		
	US 1992-911962		19920710		
	US 1992-958646		19921007		
	US 1993-57687		19930505		
	US 1989-455071		19891222		
	US 1990-556169		19900810		
	US 1990-566169		19900810		
	WO 1993-US5595		19930608		

AB Inorg. oxides of substantially uniform particle size distribution are prepd. by contacting aq. solns. of an inorg. salt and an inorg. base across a porous membrane, wherein the membrane contains pores which allow for pptn. of a substantially monodispersed size of inorg. oxide particles on one side of the membrane and pptn. of a salt of the corresponding base on a second side of the membrane. The prepd. particles can be coated

with

an organo-metallic polymer having attached thereto an org. functionality to which a variety of org. and/or biol. mols. can be coupled. The coupled

particles may be used for in vitro or in vivo systems involving sepns. steps or the directed movement of coupled mols. to particular sites, including immunol. assays, other biol. assays, biochem. or enzymic reactions, affinity chromatog. purifn., cell sorting, and diagnostic and therapeutic uses. In a further embodiment, described herein are liposome compns. which comprise the substantially uniform size inorg. core coated with an amphipathic org. compd. and further coated with a second amphipathic vesicle-forming lipid. Also disclosed are novel Ph lipid compds. which serve as the vesicle-forming lipid. When the magnetic particles are electromagnetic wave-absorbing surface-modified particles,

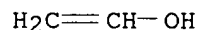
such particles provide for the prepn. of liposome compns. which offer a method for the treatment of cancer, as well as infectious diseases. Electromagnetic wave-absorbing ferrites were prepd. by the hydroxide gel process from FeCl<sub>3</sub>, CaCl<sub>2</sub>, and ZnCl<sub>2</sub> or from FeCl<sub>3</sub>, FeCl<sub>2</sub>, and MnCl<sub>2</sub> using NaOH and O<sub>2</sub>. The ferrite particles were coated with oleic acid and then treated with a second layer of Ph lipid prepd. from 5-aminoisophthalic acid and methoxypolyoxyethylene imidazoly carbonyl. The lipid-coated ferrites and uncoated ferrites (controls) were incubated with MDCK cells grown above a colony of rat neuroblastoma cells and then exposed to a frequency of 20,000 mHz for 3 min. None of the bare ferrite particles were permeable to the MDCK membrane and so had no effect on the cancer cells; the lipid-coated ferrites were permeable, heated up upon exposure to the electromagnetic wave, and killed all the cancer cells. Lipid-coated ferrites (contg. all Fe) that did not absorb electromagnetic waves were able to cross the cell barrier but were unable to kill the neuroblastoma cells.

IT 9002-89-5D, Poly(vinyl alcohol), conjugates with acylated/alkylated benzene 25322-69-4D, Poly(propylene oxide), conjugates with acylated/alkylated benzene  
 RL: ANST (Analytical study)  
 (Ph lipid contg., as coating on uniform-sized inorg. core particles in synthetic vesicles)

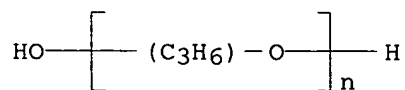
RN 9002-89-5 HCAPLUS  
 CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5  
 CMF C2 H4 O

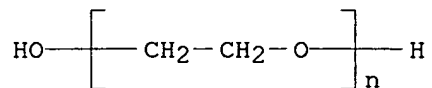


RN 25322-69-4 HCAPLUS  
 CN Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy- (9CI)  
 (CA INDEX NAME)



IT 25322-68-3D, Poly(ethylene oxide), conjugates with phosphatidylethanolamine  
 RL: ANST (Analytical study)  
 (as second coating on uniform-sized inorg. core particles coated with amphipathic org. compds., for pharmaceutical liposomes)

RN 25322-68-3 HCAPLUS  
 CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **9002-61-3**, Chorionic gonadotropin  
RL: ANST (Analytical study)  
(detn. of human, by immunoassay using inorg. oxide particles  
coated with organometallic polymer functionalized to bind antibodies)  
RN 9002-61-3 HCAPLUS  
CN Gonadotropin, chorionic (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT **9002-62-4**, Prolactin, **analysis 9002-68-0**, FSH  
**9002-71-5**, Thyroid-stimulating hormone **9002-76-0**,  
Gastrin **9004-10-8**, Insulin, **analysis**  
RL: ANT (Analyte); ANST (Analytical study)  
(detn. of, by immunoassay using inorg. oxide particles coated  
with organometallic polymer functionalized to bind antibodies)  
RN 9002-62-4 HCAPLUS  
CN Prolactin (8CI, 9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9002-68-0 HCAPLUS  
CN Follicle-stimulating hormone (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9002-71-5 HCAPLUS  
CN Thyrotropin (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9002-76-0 HCAPLUS  
CN Gastrin (hormone) (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

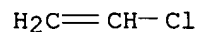
RN 9004-10-8 HCAPLUS  
CN Insulin (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT **9002-86-2**, Poly(vinyl chloride) **9003-53-6**, Polystyrene  
RL: ANST (Analytical study)  
(encapsulating clusters of controlled-size inorg. oxide particles in  
controllably degradable aggregate beads)  
RN 9002-86-2 HCAPLUS  
CN Ethene, chloro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 75-01-4  
CMF C2 H3 C1

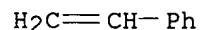


RN 9003-53-6 HCAPLUS  
 CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5

CMF C8 H8



IT **9004-34-6**, Cellulose, uses  
 RL: ANST (Analytical study)  
 (inorg. salts contact with inorg. bases across membrane of, in prepn.  
 of controlled-size particles for coating and use in sepns. and assays  
 and inorg. liposomes)

RN 9004-34-6 HCAPLUS  
 CN Cellulose (8CI, 9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

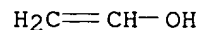
IT **9002-89-5**, Poly(vinyl alcohol) **25322-68-3**, Poly(ethylene  
 oxide) **25322-69-4**, Poly(propylene oxide)  
 RL: ANST (Analytical study)  
 (pharmaceutical liposomes with drug-entrapped uniform-sized inorg.  
 core  
 particles coated with amphipathic org. compds. and with amphipathic  
 vesicle-forming lipid derivatized with)

RN 9002-89-5 HCAPLUS  
 CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

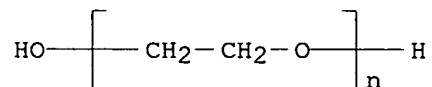
CM 1

CRN 557-75-5

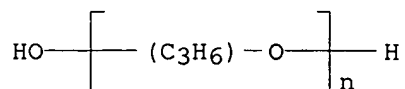
CMF C2 H4 O



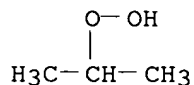
RN 25322-68-3 HCAPLUS  
 CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX  
 NAME)



RN 25322-69-4 HCAPLUS  
 CN Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy- (9CI)  
 (CA INDEX NAME)



IT **154315-73-8P**  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. of, as coating on magnetic particles)  
 RN 154315-73-8 HCAPLUS  
 CN 1-Hexanol, 6-amino-, polymer with 1-methylethyl hydroperoxide  
 titanium(4+)  
 salt (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 154315-71-6  
 CMF C3 H8 O2 . 1/3 Ti

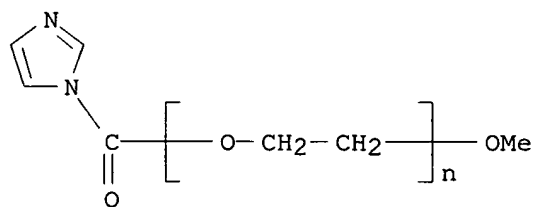


● 1/3 Ti(IV)

CM 2  
 CRN 4048-33-3  
 CMF C6 H15 N O

H<sub>2</sub>N-(CH<sub>2</sub>)<sub>6</sub>-OH

IT **86321-17-7**  
 RL: RCT (Reactant)  
 (reaction of, with aminoisophthalic acid, in prepn. of Ph lipid)  
 RN 86321-17-7 HCAPLUS  
 CN Poly(oxy-1,2-ethanediyl), .alpha.-(1H-imidazol-1-ylcarbonyl)-.omega.-  
 methoxy- (9CI) (CA INDEX NAME)



L24 ANSWER 27 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
 AN 1993:577111 HCAPLUS  
 DN 119:177111  
 TI Graphite-base solid-state polymeric membrane ion-selective electrodes  
 IN Shu, Frank R.  
 PA Beckman Instruments, Inc., USA  
 SO Eur. Pat. Appl., 12 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 551769	A1	19930721	EP 1992-311834	19921229
	EP 551769	B1	19970716		
	R: AT, DE, ES, FR, GB, IT				
	US 5286365	A	19940215	US 1992-821158	19920115
	CA 2085322	AA	19930716	CA 1992-2085322	19921214
	AT 155580	E	19970815	AT 1992-311834	19921229
	ES 2104861	T3	19971016	ES 1992-311834	19921229

PRAI US 1992-821158 19920115

AB An improved solid-state ion-selective electrode (ISE) has greater uniformity of asym. potential and high sensitivity and selectivity for the

cation of interest. The electrode comprises (1) a porous element of graphite; (2) an electrochem. ref. in substantially dry form on at least

a portion of the element, the ref. comprising (a) an oxidant and (b) a reductant that is the conjugate of the oxidant, the oxidant and reductant being present in about equimolar quantities; and (3) a polymeric membrane comprising an ion-selective ionophore in electrochem. contact with the electrochem. ref. The electrode can be prepd. to be selective for a no. of cations. Methods of prepn. of the electrodes are also described. An ISE for lithium ion and an ISE for ammonium ion are described.

IT **9003-39-8D**, Polyvinylpyrrolidone, iodine **complexes**

RL: ANST (Analytical study)

(electrochem. ref. contg., in ion-selective solid-state electrode)

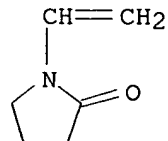
RN 9003-39-8 HCAPLUS

CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 88-12-0

CMF C6 H9 N O



IT **9002-86-2**, Polyvinyl chloride

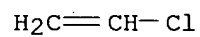
GABEL

09/403085

RL: ANST (Analytical study)  
(nonactin-contg. membrane of, in ion-selective solid-state electrode)  
RN 9002-86-2 HCAPLUS  
CN Ethene, chloro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 75-01-4  
CMF C2 H3 Cl



L24 ANSWER 28 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1993:208955 HCAPLUS  
DN 118:208955  
TI Method of measuring **analyte** using dry **analytical**  
element  
IN Kitajima, Masao  
PA Fuji Photo Film Co., Ltd., Japan  
SO Eur. Pat. Appl., 25 pp.  
CODEN: EPXXDW  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 525550	A1	19930203	EP 1992-112273	19920717
	EP 525550	B1	19990317		
	R: DE, FR, GB				
	JP 05026865	A2	19930202	JP 1991-203738	19910719
	JP 2611890	B2	19970521		
	US 5336599	A	19940809	US 1993-167629	19931215
PRAI	JP 1991-203738		19910719		
	US 1992-916944		19920720		

AB A dry **anal.** element comprises at least a **hydrophilic** polymer layer and a spreading layer laminated onto a water-impermeable support and does not contain the measuring reagents. Test sample is mixed

with a measuring reagents soln., the mixt. is applied to the dry **anal.** element, and the reaction occurring is then measured by an optical means. These elements have greatly improved shelf life. Also, the measuring reagents used in conventional wet **anal.** can be used, thus it is not necessary to develop **anal.** elements for each measuring item and one kind of element can be used with many measuring items. **Anal.** elements and assays for blood urea nitrogen, creatinine, cholesterol, and other substances are described and tested.

IT 9003-09-2, Polyvinylmethyl ether 9003-39-8,  
Polyvinylpyrrolidone 25190-97-0, Vinyl acetate-ethyl acrylate  
copolymer 144044-79-1 146716-46-3  
RL: ANST (Analytical study)

(dry **anal.** element contg., blood urea nitrogen **detn**  
. by measuring reagents soln. and)

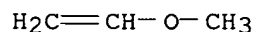
RN 9003-09-2 HCAPLUS

CN Ethene, methoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 107-25-5

CMF C3 H6 O



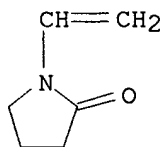
RN 9003-39-8 HCAPLUS

CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 88-12-0

CMF C6 H9 N O



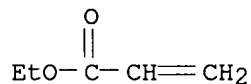
RN 25190-97-0 HCAPLUS

CN 2-Propenoic acid, ethyl ester, polymer with ethenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 140-88-5

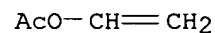
CMF C5 H8 O2



CM 2

CRN 108-05-4

CMF C4 H6 O2



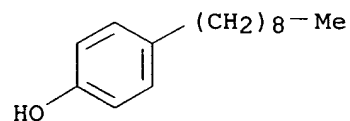
RN 144044-79-1 HCAPLUS

CN Oxiranemethanol, homopolymer, 4-nonylphenyl ether (9CI) (CA INDEX NAME)

CM 1

CRN 104-40-5

CMF C15 H24 O

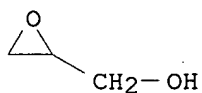


CM 2

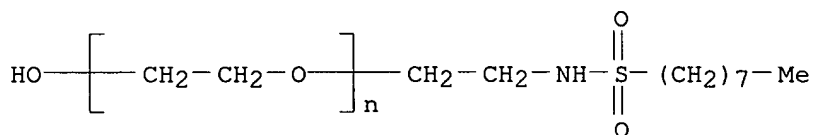
CRN 25722-70-7  
 CMF (C3 H6 O2)x  
 CCI PMS

CM 3

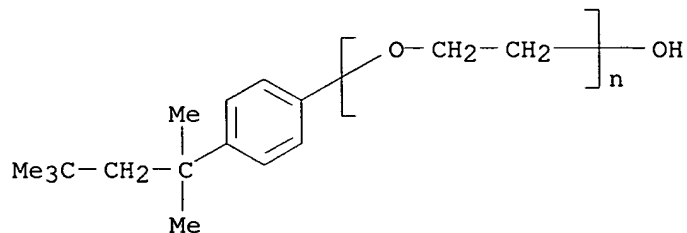
CRN 556-52-5  
 CMF C3 H6 O2



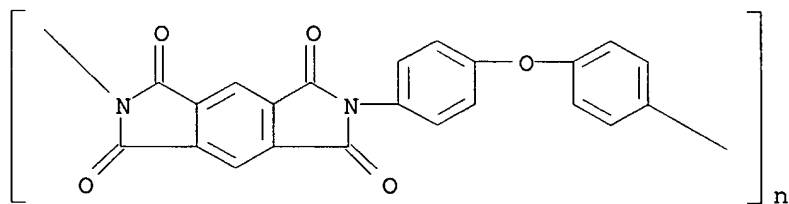
RN 146716-46-3 HCAPLUS  
 CN Poly(oxy-1,2-ethanediyl),  
 .alpha.-[2-[(octylsulfonyl)amino]ethyl]-.omega.-  
 hydroxy- (9CI) (CA INDEX NAME)



IT 9002-93-1, Triton X-100  
 RL: ANST (Analytical study)  
 (measuring reagents soln. contg., blood urea nitrogen **detn.**  
 by dry **anal.** element and)  
 RN 9002-93-1 HCAPLUS  
 CN Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-  
 .omega.-hydroxy- (9CI) (CA INDEX NAME)



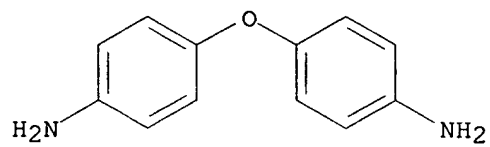
L24 ANSWER 29 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
 AN 1993:81956 HCAPLUS  
 DN 118:81956  
 TI Characterization of a surface chemically modified polyimide  
 AU Thomas, Richard R.; Buchwalter, Stephen L.  
 CS Thomas J. Watson Res. Cent., IBM, Yorktown Heights, NY, 10598, USA  
 SO Met. Plast. (1992), 2, 293-303  
 CODEN: MPFAEU  
 DT Journal  
 LA English  
 AB 4,4-Oxydianiline-pyromellitic dianhydride copolymer was surface  
 (subsurface) modified by base hydrolysis followed by protonation to leave  
 a thin film of polyamic acid over a fully cured polyimide. The modified  
 polyimide was characterized by a variety of techniques including XPS,  
 capacity (titratable amic acid groups/vol. of modified polyimide), and  
 contact angle measurements as a function of pH. XPS data clearly showed  
 the formation of the Pd<sup>2+</sup>-carboxylic acid **complex** on the  
 modified polyimide. Contact angle data, for various pH water, gathered  
 on the modified polyimide indicated the presence of carboxylic acid groups  
 which ionize and are more **hydrophilic** when the pH of the probe  
 liq. was >7.  
 IT **25036-53-7D**, 4,4-Oxydianiline-pyromellitic dianhydride copolymer,  
 sru, hydrolyzed **25038-81-7D**, 4,4-Oxydianiline-pyromellitic  
 dianhydride copolymer, hydrolyzed  
 RL: PRP (Properties)  
 (surface **anal.** and **palladium complexation**  
 of)  
 RN 25036-53-7 HCAPLUS  
 CN  
 Poly[(5,7-dihydro-1,3,5,7-tetraoxobenzo[1,2-c:4,5-c']dipyrrole-2,6(1H,3H)-  
 diyl)-1,4-phenyleneoxy-1,4-phenylene] (9CI) (CA INDEX NAME)



RN 25038-81-7 HCAPLUS  
 CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with  
 4,4'-oxybis[benzenamine] (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 101-80-4  
 CMF C12 H12 N2 O

GABEL

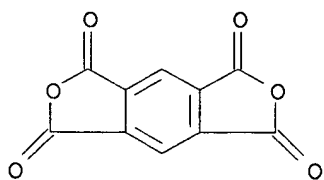
09/403085



CM 2

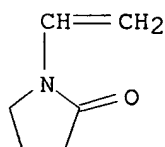
CRN 89-32-7

CMF C10 H2 O6

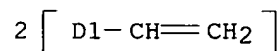


L24 ANSWER 30 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1993:32234 HCAPLUS  
Correction of: 1992:14924  
DN 118:32234  
Correction of: 116:14924  
TI **Determination** of free **magnesium** ion concentration in  
aqueous solution using 8-hydroxyquinoline immobilized on a nonpolar  
adsorbent  
AU Persaud, Gocool; Cantwell, Frederick F.  
CS Dep. Chem., Univ. Alberta, Edmonton, AB, T6G 2G2, Can.  
SO Rev. Roum. Med. Interne (1992), 64(1), 89-94  
CODEN: RRINEH; ISSN: 0003-2700  
DT Journal  
LA English  
AB The sorbent XAD-oxine was prepd. by covalently attaching the ligand  
8-hydroxyquinoline to the hydrophobic macroporous, styrene-divinylbenzene  
copolymer Amberlite XAD-2. The sorbent was used in the column  
equilibration/at. absorption method to **det.** the concn. of the  
species  $Mg^{2+}$  in the presence of kinetically labile **complexes** of  
**magnesium**. With EDTA and oxalate ligands, which form  
**hydrophilic complexes**, the method is selective for  $Mg^{2+}$   
(i.e., the **complexes** do not adsorb). With picolinate ligand,  
which forms more hydrophobic **complexes**, the **magnesium**  
-picolinate **complexes** adsorb along with  $Mg^{2+}$ . Therefore,  
ligands bound to hydrophobic substrates are considered less useful for  
measuring free metal ion concns. than are those bound to  
**hydrophilic** substrates.  
IT **9060-05-3D**, Amberlite XAD-2, reaction product with  
hydroxyquinoline  
RL: ANST (Analytical study)  
(as adsorbent, for **detn.** of free **magnesium** in  
resins of kinetically label **magnesium complexes**)  
RN 9060-05-3 HCAPLUS  
CN Amberlite XAD 2 (9CI) (CA INDEX NAME)  
  
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L24 ANSWER 31 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1992:572661 HCAPLUS  
DN 117:172661  
TI Measurement of absorption spectra and water sorption of  
**hydrophilic** polymer films containing **cobalt** chloride  
AU Otsuki, Soichi; Adachi, Kimihiro  
CS Gov. Ind. Res. Inst. Osaka, Ikeda, 563, Japan  
SO Kobunshi Ronbunshu (1992), 49(8), 697-702  
CODEN: KBRBA3; ISSN: 0386-2186  
DT Journal  
LA Japanese  
AB **Hydrophilic** polymer films contg. CoCl<sub>2</sub> are investigated as bases  
for an optical humidity **detection** technique. In  
poly(vinylpyrrolidone) films, a polar group of the polymer is coordinated  
to a Co ion; the group is replaced by a water mol. when the film  
is exposed to moisture, as judged by a red shift of about 8 nm (max.) at  
the absorption max. of the films. An absorbance decrease for the film on  
increasing relative humidity indicated that the 4-coordinate form of the  
Co ion changes to the 6-coordinate form. Moreover, the stiffness  
of the dry film suggested crosslinking of the polymer by double  
coordination of the polar group to the Co ion. In  
hydroxypropylcellulose films, an absorbance increment with no shift of  
absorption max. during the desiccation process revealed that the  
coordination between the polymer and the Co ion is absent and  
that the polymer serves only as a support of CoCl<sub>2</sub>. Water contents of  
both polymer films are drastically enhanced in the higher humidity range  
but are not much influenced in the lower humidity range by increasing the  
content of CoCl<sub>2</sub> in the films.  
IT **9003-39-8D**, Poly(vinylpyrrolidone), **cobalt**  
**complexes**  
RL: PRP (Properties)  
(films, absorption spectra and water sorption of, structure in  
relation  
to)  
RN 9003-39-8 HCAPLUS  
CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)  
CM 1  
CRN 88-12-0  
CMF C6 H9 N O



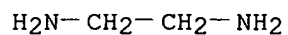
L24 ANSWER 32 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1992:542588 HCAPLUS  
DN 117:142588  
TI Synthesis of ligand exchange chromatographic supports with polyacrylamide matrix and its application to the separation of amino acids  
AU Yan, Husheng; Cheng, Xiaohui; He, Binglin  
CS Inst. Polymer Chem., Nankai Univ., Tianjin, 300071, Peop. Rep. China  
SO Gaodeng Xuexiao Huaxue Xuebao (1992), 13(2), 270-3  
CODEN: KTHPDM; ISSN: 0251-0790  
DT Journal  
LA Chinese  
AB The present paper reports the synthesis of chelate resins with **hydrophilic** polyacrylamide matrix and ligands which form pentacyclic chelates with cupric ions. The resins were prepd. by refluxing polyamines with Me acrylate-ethylene glycol bis(Me acrylate)-divinylbenzene copolymer and followed by reaction with ClCH<sub>2</sub>COOH. The resins coordinated with Cu<sup>2+</sup> were used as the ligand-exchange chromatog. supports for the sepn. of neutral amino acids. The chromatog. behavior was compared with those on the columns packed with other two types of chelate resins in Cu<sup>2+</sup> form (polyacrylic acid and iminodiacetate modified polystyrene resin). Some of the resins synthesized in this paper have the best sepn. efficiencies. The effect of the chromatog. conditions on the sepn. was studied. The mechanism of the sepn. is discussed.  
IT 143336-98-5P 143336-99-6P 143337-00-2P  
143440-94-2P  
RL: PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)  
(prepn. and characterization of)  
RN 143336-98-5 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with diethenylbenzene, 1,2-ethanediamine and methyl 2-propenoate (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 1321-74-0  
CMF C10 H10  
CCI IDS  
CDES 8:ID



CM 2

CRN 107-15-3

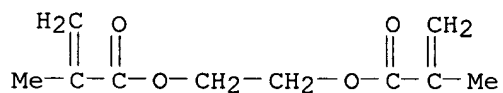
CMF C2 H8 N2



CM 3

CRN 97-90-5

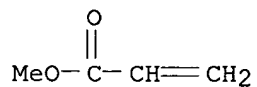
CMF C10 H14 O4



CM 4

CRN 96-33-3

CMF C4 H6 O2



RN 143336-99-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with  
N-(2-aminoethyl)-1,2-ethanediamine, diethenylbenzene and methyl  
2-propenoate (9CI) (CA INDEX NAME)

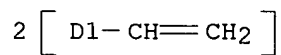
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CRN 1321-74-0

CMF C10 H10

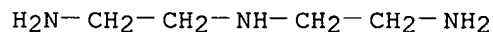
CCI IDS

CDES 8:ID



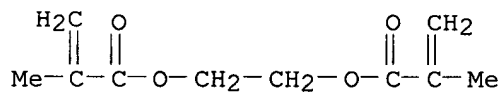
CM 2

CRN 111-40-0  
CMF C4 H13 N3



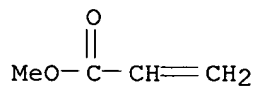
CM 3

CRN 97-90-5  
CMF C10 H14 O4



CM 4

CRN 96-33-3  
CMF C4 H6 O2

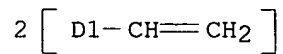


RN 143337-00-2 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with  
N,N'-bis(2-aminoethyl)-1,2-ethanediamine, diethenylbenzene and methyl  
2-propenoate (9CI) (CA INDEX NAME)

CM 1

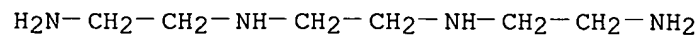
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CMF C10 H10

CCI IDS  
CDES 8:ID



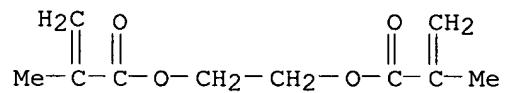
CM 2

CRN 112-24-3  
CMF C6 H18 N4



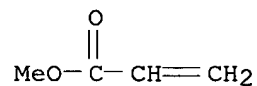
CM 3

CRN 97-90-5  
CMF C10 H14 O4



CM 4

CRN 96-33-3  
CMF C4 H6 O2



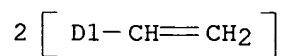
RN 143440-94-2 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with  
N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-1,2-ethanediamine,  
diethenylbenzene and methyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

GABEL

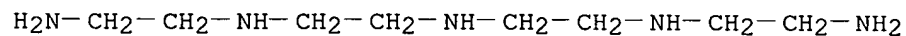
09/403085

CRN 1321-74-0  
CMF C10 H10  
CCI IDS  
CDES 8:ID



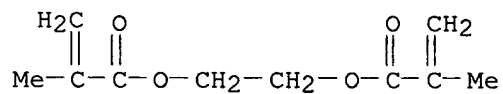
CM 2

CRN 112-57-2  
CMF C8 H23 N5



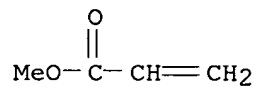
CM 3

CRN 97-90-5  
CMF C10 H14 O4



CM 4

CRN 96-33-3  
CMF C4 H6 O2



IT **143336-98-5DP**, reaction product with chloroacetic acid,  
**copper complexes**  
RL: SPN (Synthetic preparation); ANST (Analytical study); PREP

## (Preparation)

(prepn. and use of, as stationary phase for sepn. of amino acids by ligand-exchange liq. chromatog.)

RN 143336-98-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with diethenylbenzene, 1,2-ethanediamine and methyl 2-propenoate (9CI) (CA INDEX NAME)

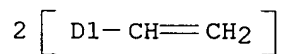
CM 1

CRN 1321-74-0

CMF C10 H10

CCI IDS

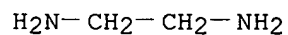
CDES 8:ID



CM 2

CRN 107-15-3

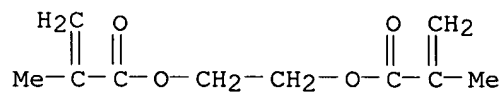
CMF C2 H8 N2



CM 3

CRN 97-90-5

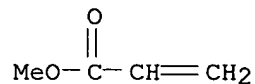
CMF C10 H14 O4



CM 4

CRN 96-33-3

CMF C4 H6 O2



IT 143336-99-6DP, reaction product with chloroacetic acid,  
**copper complexes 143337-00-2DP**, reaction  
 product with chloroacetic acid, **copper complexes**  
**143440-94-2DP**, reaction product with chloroacetic acid,  
**copper complexes**  
 RL: SPN (Synthetic preparation); ANST (Analytical study); PREP  
 (Preparation)  
 (prepn. and use of, as stationary phase for sepn. of amino acids by  
 liq. chromatog.)

RN 143336-99-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with  
 N-(2-aminoethyl)-1,2-ethanediamine, diethenylbenzene and methyl  
 2-propenoate (9CI) (CA INDEX NAME)

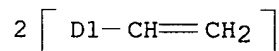
CM 1

CRN 1321-74-0

CMF C10 H10

CCI IDS

CDES 8:ID



CM 2

CRN 111-40-0

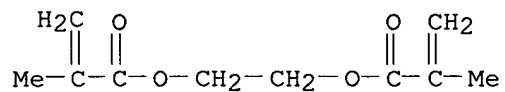
CMF C4 H13 N3



CM 3

CRN 97-90-5

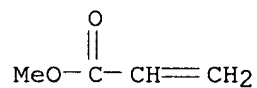
CMF C10 H14 O4



CM 4

CRN 96-33-3

CMF C4 H6 O2



RN 143337-00-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with  
N,N'-bis(2-aminoethyl)-1,2-ethanediamine, diethenylbenzene and methyl  
2-propenoate (9CI) (CA INDEX NAME)

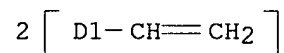
CM 1

CRN 1321-74-0

CMF C10 H10

CCI IDS

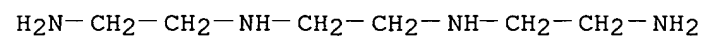
CDES 8:ID



CM 2

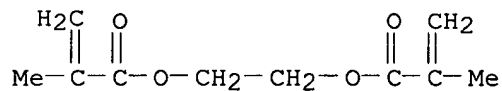
CRN 112-24-3

CMF C6 H18 N4



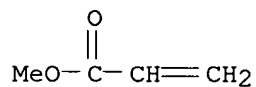
CM 3

CRN 97-90-5  
CMF C10 H14 O4



CM 4

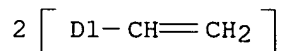
CRN 96-33-3  
CMF C4 H6 O2



RN 143440-94-2 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with  
N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-1,2-ethanediamine,  
diethenylbenzene and methyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 1321-74-0  
CMF C10 H10  
CCI IDS  
CDES 8:ID



CM 2

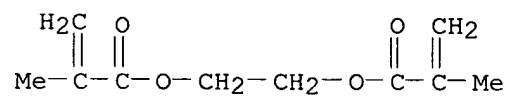
CRN 112-57-2  
CMF C8 H23 N5



CM 3

CRN 97-90-5

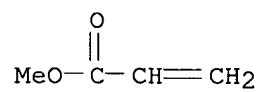
CMF C10 H14 O4



CM 4

CRN 96-33-3

CMF C4 H6 O2



L24 ANSWER 33 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1992:422859 HCAPLUS  
DN 117:22859  
TI Apparatus for continuously monitoring a plurality of chemical  
**analytes** through a single optical fiber, and method for its  
manufacture  
IN Yim, Jeffrey B.; Khalil, Gamal Eddin; Pihl, Roger J.; Huss, Bradley D.;  
Vurek, Gerald G.  
PA Abbott Laboratories, USA  
SO U.S., 13 pp.  
CODEN: USXXAM  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5098659	A	19920324	US 1990-587234	19900924
	AU 9181502	A1	19920326	AU 1991-81502	19910730
	AU 646278	B2	19940217		
	EP 477501	A2	19920401	EP 1991-112874	19910731
	EP 477501	A3	19920708		
	R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE				
	CA 2050738	AA	19920325	CA 1991-2050738	19910905
	JP 04305143	A2	19921028	JP 1991-240927	19910920

PRAI US 1990-587234 19900924

OS MARPAT 117:22859

AB A multi-**analyte** probe comprises an optical fiber which transmits light bidirectionally at multiple wavelengths, an optical sensor attached distally thereto which contains an indicator for a 1st **analyte**, and a polymer matrix contg. an indicator for a 2nd **analyte** which is disposed adjacent to the distal end of the optical fiber and to the optical sensor. The 1st indicator absorbs light at a 1st wavelength proportionally to the concn. of the 1st **analyte**, and the 2nd indicator emits light at a 2nd wavelength proportionally to the concn. of the 2nd **analyte**. The probe may constitute a CO<sub>2</sub>/O<sub>2</sub> or pH/O<sub>2</sub> sensor for monitoring blood gases. The CO<sub>2</sub> sensor comprises a pellet contg. NaHCO<sub>3</sub>, indicator (phenol red), and a polymer matrix attached to the distal end of the optical fiber by one surface and having the other surface covered by light-reflective material (e.g. **Au** foil). The pH sensor is a similar pellet contg. phenol red and polymer matrix. O<sub>2</sub> is detected with an insol. phosphorescent porphyrin indicator, e.g. **Pt** tetraphenylporphyrin, dispersed in a polymer matrix. Construction details and schematic drawings of the probe are provided.

IT 99581-76-7D, conjugates with indicators

RL: ANST (Analytical study)

(in optrode biosensor, for carbon dioxide and pH **detn.** in blood)

RN 99581-76-7 HCAPLUS

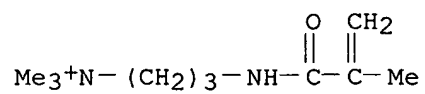
CN 1-Propanaminium, N,N,N-trimethyl-3-[(2-methyl-1-oxo-2-propenyl)amino]-, chloride, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

GABEL

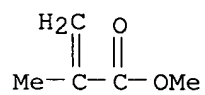
09/403085

CRN 51410-72-1  
CMF C10 H21 N2 O . Cl

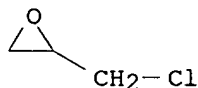


CM 2

CRN 80-62-6  
CMF C5 H8 O2



L24 ANSWER 34 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1992:36616 HCAPLUS  
DN 116:36616  
TI Cerium as amplifying agent - an improved cerium-perhydroxide-DAB-  
**nickel** (Ce/Ce-H2O2-DAB-Ni) method for the visualization  
of cerium phosphate in resin sections  
AU Halbhuber, K. J.; Hulstaert, C. E.; Gerrits, P.; Moeller, U.; Kalicharan,  
D.; Feuerstein, H.  
CS Inst. Anat., Friedrich Schiller Univ., Jena, D-O-6900, Germany  
SO Cell. Mol. Biol. (1991), 37(3), 295-307  
CODEN: CMBID4; ISSN: 0145-5680  
DT Journal  
LA English  
AB A new visualization (Ce/Ce-H2O2-DAB-Ni) procedure for cerium (Ce  
III) phosphate in semithin and ultrathin plastic sections (Epon 812,  
Lowicryl K4M, glycol methacrylate) or rat kidney tissues that had been  
incubated before embedding for the demonstration of phosphatases (alk.  
and  
acid phosphatase, 5l-nucleotidase, **Mg**-dependent ATPase) is  
described. For this purpose the hydrophobic Epon resin was removed in  
NaOH-ethanol soln., whereas the **hydrophilic** Lowicryl and  
methacrylate sections did not required any etching. The primary reaction  
product Ce III-phosphate was amplified in a Ce III-citrate soln.,  
subsequently oxidized with H2O2 and then visualized in a H2O2 contg. DAB-  
**nickel** medium (Ce IV-perhydroxy induced DAB polymn. principle).  
The method yielded a very clear localization of enzyme activity. The  
final reaction product (DAB-**nickel** polymers) in 0.5-2.0 .mu.m  
semithin sections is blue-black; the background staining is completely  
prevented. An increase of the staining contrast was obtained by  
posttreatment with OsO4 (osmium black formation). Furthermore, the  
enzyme  
reaction product could be demonstrated in 40-nm thick ultrathin sections  
by silver intensification, which utilized with high argyrophilia of the  
polymd. DAB-**nickel** complexes. The procedure replaces  
the earlier published technique.  
IT 25038-04-4, EPON 812 84137-04-2, Lowicryl K4M  
RL: ANST (Analytical study)  
(kidney tissue embedded in, for phosphatase **detection** by  
light microscopy, cerium-peroxide-DAB-**nickel** improved method  
for)  
RN 25038-04-4 HCAPLUS  
CN 1,2,3-Propanetriol, polymer with (chloromethyl)oxirane (9CI) (CA INDEX  
NAME)  
CM 1  
CRN 106-89-8  
CMF C3 H5 Cl O



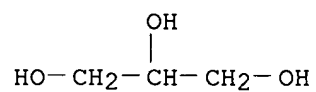
GABEL

09/403085

CM 2

CRN 56-81-5

CMF C3 H8 O3



RN 84137-04-2 HCAPLUS

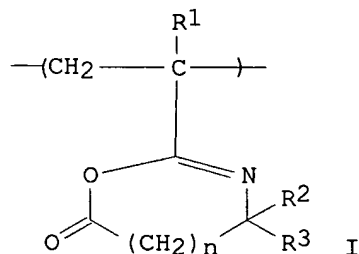
CN Lowicryl K 4M (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L24 ANSWER 35 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1992:14924 HCAPLUS  
DN 116:14924  
TI **Determination** of free **magnesium** ion concentration in  
aqueous solution using 8-hydroxyquinoline immobilized on a nonpolar  
adsorbent  
AU Persaud, Gocool; Cantwell, Frederick F.  
CS Dep. Chem., Univ. Alberta, Edmonton, AB, T6G 2G2, Can.  
SO Anal. Chem. (1992), 64(1), 89-94  
CODEN: ANCHAM; ISSN: 0003-2700  
DT Journal  
LA English  
AB The sorbent XAD-oxine was prepd. by covalently attaching the ligand  
8-hydroxyquinoline to the hydrophobic macroporous, styrene-divinylbenzene  
copolymer Amberlite XAD-2. The sorbent was used in the column  
equilibration/at. absorption method to **det.** the concn. of the  
species  $Mg^{2+}$  in the presence of kinetically labile **complexes** of  
**magnesium**. With EDTA and oxalate ligands, which form  
**hydrophilic complexes**, the method is selective for  $Mg^{2+}$   
(i.e., the **complexes** do not sorb). With picolinate ligand,  
which forms more hydrophobic **complexes**, the **magnesium**  
-picolinate **complexes** sorb along with  $Mg^{2+}$ . Therefore, ligands  
bound to hydrophobic substrates are considered less useful for measuring  
free metal ion concns. than are those bound to **hydrophilic**  
substrates.  
IT **9060-05-3D**, Amberlite XAD-2, reaction product with  
chloromethylated hydroxyquinoline  
RL: ANST (Analytical study)  
(adsorbent, for **detn.** of free **magnesium** ion in  
presence of kinetically labile **complexes** of **magnesium**  
)  
RN 9060-05-3 HCAPLUS  
CN Amberlite XAD 2 (9CI) (CA INDEX NAME)  
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L24 ANSWER 36 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
 AN 1991:144291 HCAPLUS  
 DN 114:144291  
 TI Polymeric supports containing azlactone functionality and their preparation  
 IN Heilmann, Steven M.; Rasmussen, Jerald K.; Krepski, Larry R.; Milbrath, Dean S.; Coleman, Patrick L.; Walker, Margaret M.  
 PA Minnesota Mining and Mfg. Co., USA  
 SO Eur. Pat. Appl., 33 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 392735	A2	19901017	EP 1990-303611	19900404
	EP 392735	A3	19920212		
	EP 392735	B1	19960717		
	R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
	US 5292840	A	19940308	US 1989-335835	19890410
PRAI	US 1989-335835		19890410		
	US 1987-25605		19870313		
	US 1988-158258		19880219		
GI					



AB **Hydrophilic** azlactone-functional polymers which contain units I (R1 = H, Me; R2, R3 = C1-14 alkyl, C3-14 cycloalkyl, C5-12 aryl, C6-26 heteroaryl, or CR2R3 is a C4-12 carbocyclic ring; n = 0, 1) provide novel supports for **complexing** agents, reagents, chromatog. sorbents, and enzymes or other biol. active agents. The supports are membranes, films, or coatings on a substrate when they contain 0-99 mol parts crosslinking monomer, or beads when they contain 0-5 mol parts crosslinking monomer. Thus, 50.4:44.6:7.8 N-acryloylmethylalanine Na salt-dimethylacrylamide-methylenebisacrylamide copolymer (II) was prepd. by NH4 persulfate polymn. under N in heptane-CCl4 and aq. NaOH. Sorbitan sesquioleate and 1,2-bis(dimethylamino)ethane were added at 21-33.degree., and stirring for 3 h gave spherical beads. Cyclization of 15.1 g II beads

at 100.degree. with 100 mL Ac2O gave the resp. 46:46:8  
azlactone-functional copolymer (III). Beads of 34.4:62.2:3.3 (mol %) III  
in a centrifuge tube were covered with 100 .mu.L of a radio-labeled  
(125I)  
protein soln. and shaken 90 min. The tube was centrifuged, and the  
supernatant washed and collected. The beads showed 2.54 .mu.g protein/10  
mg beads, vs. 0.14 .mu.g protein/10 mg beads for a  
control.

IT **132743-60-3P**

RL: SPN (Synthetic preparation); PREP (Preparation)  
(beads, prepn. of)

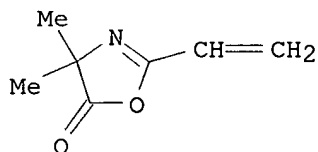
RN 132743-60-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with  
2-ethenyl-4,4-dimethyl-5(4H)-oxazolone (9CI) (CA INDEX NAME)

CM 1

CRN 29513-26-6

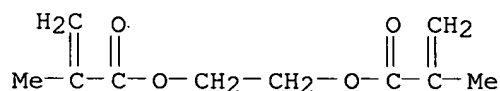
CMF C7 H9 N O2



CM 2

CRN 97-90-5

CMF C10 H14 O4



IT **129825-50-9P**

RL: PREP (Preparation)  
(beads, prepn. of, as reagent supports)

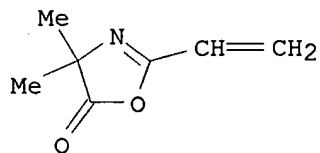
RN 129825-50-9 HCAPLUS

CN 2-Propenamide, N,N'-methylenebis-, polymer with 2-ethenyl-4,4-dimethyl-  
5(4H)-oxazolone (9CI) (CA INDEX NAME)

CM 1

CRN 29513-26-6

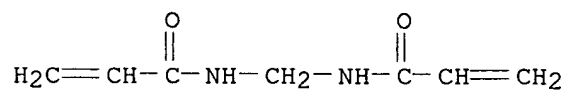
CMF C7 H9 N O2



CM 2

CRN 110-26-9

CMF C7 H10 N2 O2



IT 27416-12-2P 32241-35-3P 132743-61-4P

132763-34-9P

RL: PREP (Preparation)

(beads, prepn. of, by dispersion polymn.)

RN 27416-12-2 HCAPLUS

CN 5(4H)-Oxazolone, 4,4-dimethyl-2-(1-methylethenyl)-, homopolymer (9CI)

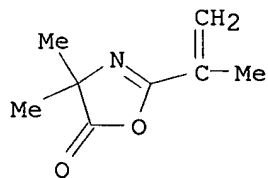
(CA

INDEX NAME)

CM 1

CRN 15926-34-8

CMF C8 H11 N O2



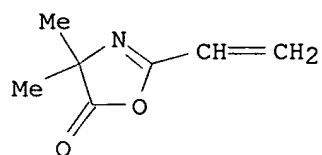
RN 32241-35-3 HCAPLUS

CN 4(5H)-Oxazolone, 2-ethenyl-4,4-dimethyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 29513-26-6

CMF C7 H9 N O2



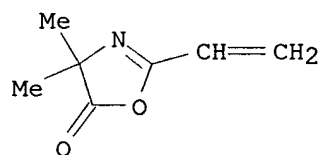
RN 132743-61-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with  
2-ethenyl-4,4-dimethyl-5(4H)-oxazolone and methyl 2-methyl-2-propenoate  
(9CI) (CA INDEX NAME)

CM 1

CRN 29513-26-6

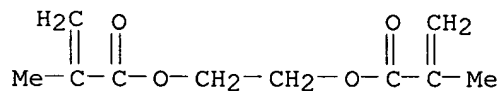
CMF C7 H9 N O2



CM 2

CRN 97-90-5

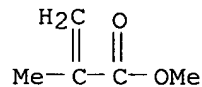
CMF C10 H14 O4



CM 3

CRN 80-62-6

CMF C5 H8 O2



RN 132763-34-9 HCAPLUS

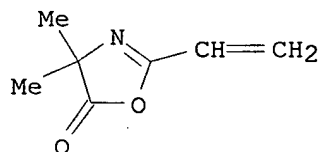
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with

2-ethenyl-4,4-dimethyl-5(4H)-oxazolone and 2-hydroxyethyl  
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 29513-26-6

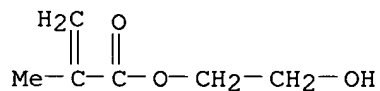
CMF C7 H9 N O2



CM 2

CRN 868-77-9

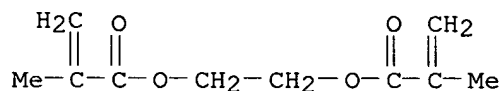
CMF C6 H10 O3



CM 3

CRN 97-90-5

CMF C10 H14 O4



IT 132763-35-0

RL: USES (Uses)

(coating of, on glass beads)

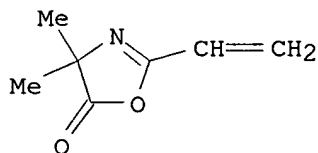
RN 132763-35-0 HCAPLUS

CN 5(4H)-Oxazolone, 2-ethenyl-4,4-dimethyl-, polymer with ethenylbenzene,  
graft (9CI) (CA INDEX NAME)

CM 1

CRN 29513-26-6

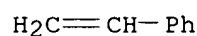
CMF C7 H9 N O2



CM 2

CRN 100-42-5

CMF C8 H8



IT 9002-88-4, Polyethylene

RL: USES (Uses)

(coating of, with partially hydrolyzed azlactone-functional polymer supports)

RN 9002-88-4 HCAPLUS

CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1

CMF C2 H4



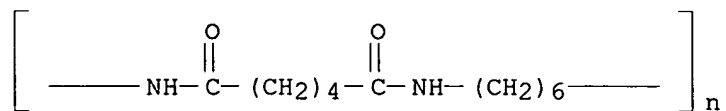
IT 32131-17-2, Nylon 66, uses and miscellaneous

RL: USES (Uses)

(membranes, coating of, with azlactone-functional polymers)

RN 32131-17-2 HCAPLUS

CN Poly[imino(1,6-dioxo-1,6-hexanediyl)imino-1,6-hexanediyl] (9CI) (CA INDEX NAME)



IT 81094-98-6P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. and coating of, on polystyrene wells)

RN 81094-98-6 HCAPLUS

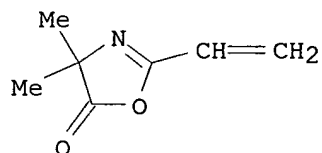
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with

2-ethenyl-4,4-dimethyl-5(4H)-oxazolone (9CI) (CA INDEX NAME)

CM 1

CRN 29513-26-6

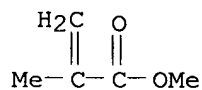
CMF C7 H9 N O2



CM 2

CRN 80-62-6

CMF C5 H8 O2



IT **116000-32-9P**

RL: RCT (Reactant); PREP (Preparation)

(prepn. and cyclization of, for polymer-supported reagents)

RN 116000-32-9 HCAPLUS

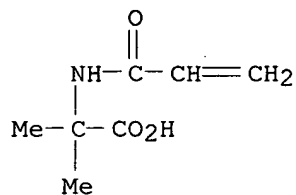
CN Alanine, 2-methyl-N-(1-oxo-2-propenyl)-, monosodium salt, polymer with N,N-dimethyl-2-propenamide and N,N'-methylenebis[2-propenamide] (9CI)

(CA INDEX NAME)

CM 1

CRN 116000-31-8

CMF C7 H11 N O3 . Na

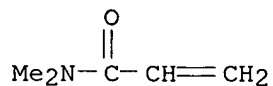


● Na

CM 2

CRN 2680-03-7

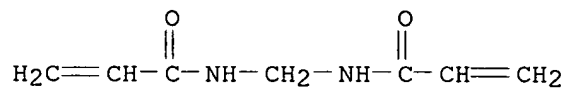
CMF C5 H9 N O



CM 3

CRN 110-26-9

CMF C7 H10 N2 O2



IT 132774-05-1P

RL: PREP (Preparation)

(prepn. of, as stabilizer in prepn. of azlactone-functional polymer supports)

RN 132774-05-1 HCAPLUS

CN 2-Propenoic acid, isooctyl ester, polymer with 2-ethenyl-4,4-dimethyl-5(4H)-oxazolone (9CI) (CA INDEX NAME)

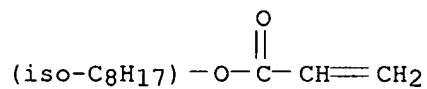
CM 1

CRN 29590-42-9

CMF C11 H20 O2

CCI IDS

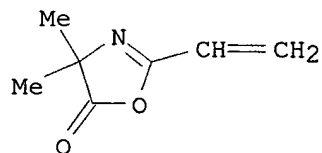
CDES 8:ID,ISO



CM 2

CRN 29513-26-6

CMF C7 H9 N O2



IT 9017-68-9 37383-10-1 132774-09-5

132801-50-4

RL: USES (Uses)

(stabilizer, in prepn. of azlactone-functional polymer supports)

RN 9017-68-9 HCAPLUS

CN 2-Propenoic acid, polymer with isooctyl 2-propenoate (9CI) (CA INDEX NAME)

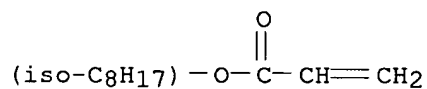
CM 1

CRN 29590-42-9

CMF C11 H20 O2

CCI IDS

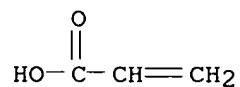
CDES 8:ID,ISO



CM 2

CRN 79-10-7

CMF C3 H4 O2



RN 37383-10-1 HCAPLUS

CN 2-Propenoic acid, isooctyl ester, polymer with sodium 2-propenoate (9CI)  
(CA INDEX NAME)

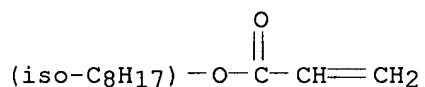
CM 1

CRN 29590-42-9

CMF C11 H20 O2

CCI IDS

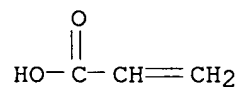
CDES 8:ID,ISO



CM 2

CRN 7446-81-3

CMF C3 H4 O2 . Na



● Na

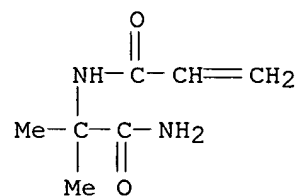
RN 132774-09-5 HCAPLUS

CN 2-Propenoic acid, isooctyl ester, polymer with N-(2-amino-1,1-dimethyl-2-oxoethyl)-2-propenamide (9CI) (CA INDEX NAME)

CM 1

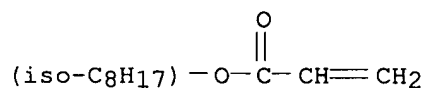
CRN 132774-08-4

CMF C7 H12 N2 O2



CM 2

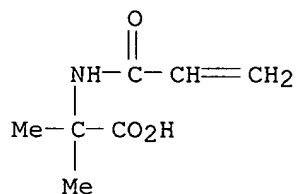
CRN 29590-42-9  
 CMF C11 H20 O2  
 CCI IDS  
 CDES 8:ID,ISO



RN 132801-50-4 HCAPLUS  
 CN Alanine, 2-methyl-N-(1-oxo-2-propenyl)-, monosodium salt, polymer with  
 isooctyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

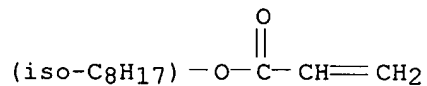
CRN 116000-31-8  
 CMF C7 H11 N O3 . Na



● Na

CM 2

CRN 29590-42-9  
 CMF C11 H20 O2  
 CCI IDS  
 CDES 8:ID,ISO

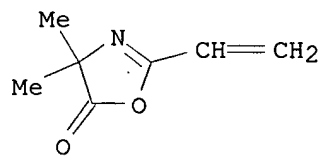


IT **132763-33-8P**  
 RL: PREP (Preparation)  
 (supports, prepn. and reaction of)  
 RN 132763-33-8 HCAPLUS  
 CN 2-Propenamide, N,N-dimethyl-, polymer with 2-ethenyl-4,4-dimethyl-5(4H)-  
 oxazolone and N,N'-methylenebis[2-propenamide] (9CI) (CA INDEX NAME)

CM 1

CRN 29513-26-6

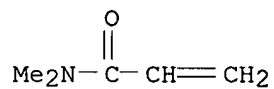
CMF C7 H9 N O2



CM 2

CRN 2680-03-7

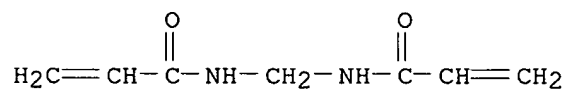
CMF C5 H9 N O



CM 3

CRN 110-26-9

CMF C7 H10 N2 O2



L24 ANSWER 37 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1991:114134 HCAPLUS  
DN 114:114134  
TI Anion-selective membrane electrode based on bis(diphenylphosphino)alkane-  
**copper(II) complexes**  
AU Kamata, Satsuo; Nomura, Shinji; Ohashi, Kousaburo  
CS Fac. Eng., Kagoshima Univ., Kagoshima, 890, Japan  
SO Bunseki Kagaku (1990), 39(11), 677-81  
CODEN: BNSKAK; ISSN: 0525-1931  
DT Journal  
LA Japanese  
AB Poly(vinyl chloride) (PVC) membrane and membrane-coated C rod anion-selective electrodes were made by using the **Cu(II) complexes** of bis(diphenylphosphino)ethane (BDPPE) and bis(diphenylphosphino)propane (BDPPP) as new anion sensor materials. The PVC sensing membrane was made from THF soln. contg. sensor materials 3, o-nitrophenyl octyl ether (plasticizer) 55, and PVC 42 wt.%. The chloride ion selective membrane electrode showed a Nernstian slope of 55-58 mV/decade and a response time of 5 s at pH range of 3.7-9.0. Although the order of selectivity coeff. value for foreign anions followed the Hofmeister series, the interfering effect of **hydrophile** anions for this chloride ion selective electrode was rather weak, compared to that of the electrodes based on quaternary ammonium salt or org. tin compds. BDPPE forms a 1:2 Cu<sup>2+</sup>/ligand **complex** and the co-anion was exchanged to produce a potential response. The membrane-coated carbon rod electrodes for Cl<sup>-</sup>, NO<sub>3</sub><sup>-</sup>, and ClO<sub>4</sub><sup>-</sup> exhibited Nernstian slopes of 56-57 mV/decade. The order of their **detection** limits was Cl<sup>-</sup> > NO<sub>3</sub><sup>-</sup> > ClO<sub>4</sub><sup>-</sup>. The ClO<sub>4</sub><sup>-</sup> electrode showed the best **detection** limit, 10<sup>-7</sup> mol dm<sup>-3</sup>.  
IT **9002-86-2**, Poly(vinyl chloride)  
RL: ANST (Analytical study)  
(membranes, anion-selective electrode, contg. phosphinoalkane **copper complexes**)  
RN 9002-86-2 HCAPLUS  
CN Ethene, chloro-, homopolymer (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 75-01-4  
CMF C2 H3 Cl

H<sub>2</sub>C=CH-Cl

L24 ANSWER 38 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1991:88277 HCAPLUS  
DN 114:88277  
TI Carboxyl acidity of aquatic organic matter: possible systematic errors introduced by XAD extraction  
AU Shuman, M. S.  
CS Dep. Environ. Sci. Eng., Univ. North Carolina, Chapel Hill, NC, 27599-7400, USA  
SO Life Sci. Res. Rep. (1990), 48(Org. Acids Aquat. Ecosyst.), 97-109  
CODEN: LSRPD8; ISSN: 0340-8132  
DT Journal  
LA English  
AB Literature values of carboxyl acidity are compared and found to be exceedingly uniform for XAD exts. of aquatic dissolved org. matter (DOM). Although the database for drawing any conclusion is incomplete, there is some evidence indicating that these values are lower than those obtained from anion exchange resin exts. or from samples that have not undergone an extn. step. It is suggested that XAD resins select a uniform fraction of the DOM, which gives the illusion of uniform chem. properties, and that the acidic fraction that is not extd., the **hydrophilic** acid fraction carries important and differentiating information that is ignored. Relying principally on XAD exts. as surrogates for investigations of native aquatic DOM chem. may **lead** to serious errors in modeling DOM for acidity or metal **complexation**, and may bias our understanding of how the chem. properties of DOM vary over time and space. Recommendations are made to study whole water samples and the **hydrophilic** acid fraction to test these hypotheses.

IT 9060-05-3, Amberlite XAD 2 11104-40-8, Amberlite XAD 8 37380-43-1, Amberlite XAD 7  
RL: OCCU (Occurrence)  
(carboxyl acidity **detn.** of water by extn. with, systematic errors in)

RN 9060-05-3 HCAPLUS  
CN Amberlite XAD 2 (9CI) (CA INDEX NAME)

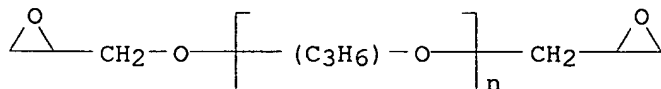
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*  
RN 11104-40-8 HCAPLUS  
CN Amberlite XAD 8 (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*  
RN 37380-43-1 HCAPLUS  
CN Amberlite XAD 7 (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L24 ANSWER 39 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1991:16686 HCAPLUS  
DN 114:16686  
TI Preconcentration of trace elements from aqueous solution with Amberlite XAD-4  
AU Yang, Xiaogen; Jackwerth, E.  
CS Fac. Chem., Ruhr-Univ., Bochum, Fed. Rep. Ger.  
SO Fenxi Huaxue (1990), 18(7), 613-17  
CODEN: FHHHDT; ISSN: 0253-3820  
DT Journal  
LA Chinese  
AB The adsorptive behavior of 16 trace elements as hydroxides, chelates of pyrrolidinyldithiocarbamate, and chelates of Xylenol Orange from aq. soln.  
on Amberlite XAD-4 resin was examd. by using a short column. The dependence of the adsorbability of slightly water sol. metal compds. on the pH value of the soln. is very similar to that with activated carbon as  
the adsorbent. The chelates of Xylenol Orange contg. **hydrophilic** groups are not sorbed by the resin. Addnl., the elution of adsorbed trace  
compds. and the **detn.** of trace elements in acetone soln. by flame at. absorption spectrometry are discussed.  
IT **37380-42-0**, Amberlite XAD-4  
RL: ANST (Analytical study)  
(adsorption of trace elements as chelates and hydroxide on)  
RN 37380-42-0 HCAPLUS  
CN Amberlite XAD 4 (9CI) (CA INDEX NAME)  
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L24 ANSWER 40 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
 AN 1990:627465 HCAPLUS  
 DN 113:227465  
 TI Effect of resin use in the post-embedding procedure on immunoelectron microscopy of membranous antigens, with special reference to sensitivity  
 AU Shida, Hisato; Ohga, Rie  
 CS Med. Sch., Univ. Yamanashi, Yamanashi, 409-38, Japan  
 SO J. Histochem. Cytochem. (1990), 38(11), 1687-91  
 CODEN: JHCYAS; ISSN: 0022-1554  
 DT Journal  
 LA English  
 AB To investigate quant. the effect of resins on the sensitivity of immunoelectron microscopy of membranous antigen, ultra-thin sections of bovine epithelial tissue embedded in five different kinds of resins [JB-4 (JB4), LR **Gold** (LRG), Lowicryl K4M (K4M), Quetol 812 (Q812), and Spurr's (Spurr) resin] were labeled specifically with anti-desmosomal glycoprotein I (DGI) antibody followed by protein A-**gold** (PAG) conjugates. When the labeling intensity expressed as the no. of PAG particles per 500-nm length of the desmosomal region along the membrane was compared, three **hydrophilic** resins (JB4, LRG, and K4M) showed much greater levels of labeling intensity than did epoxy resins (Q812 and Spurr), which had a neg. value. The three **hydrophilic** resins showed only minor differences in their levels of labeling intensity. The intensity obtained with JB4, which was the highest of the three, was further increased by pretreatment of the ultra-thin sections with Me methacrylate monomer (MM) for 5 min. On the basis of these results wide applicability of this new technique for membranous antigens, which have been difficult to detect pos. by any previously employed techniques, is suggested.  
 IT **52368-54-4 84137-04-2**, Lowicryl K4M **122157-68-0**, JB-4  
 RL: ANST (Analytical study)  
 (immunoelectron microscopy of membranous antigens response to)  
 RN 52368-54-4 HCAPLUS  
 CN 2,5-Furandione, 3-(4,6-dimethyl-2-heptenyl)dihydro-, polymer with .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)poly[oxy(methyl-1,2-ethanediyl)] and 3-oxiranyl-7-oxabicyclo[4.1.0]heptane (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 26142-30-3  
 CMF (C3 H6 O)<sub>n</sub> C6 H10 O3  
 CCI IDS, PMS  
 CDES 8:ID

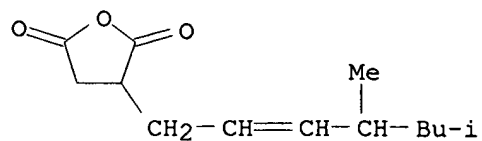


CM 2

GABEL

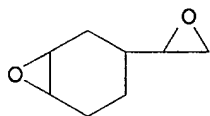
09/403085

CRN 22915-91-9  
CMF C13 H20 O3



CM 3

CRN 106-87-6  
CMF C8 H12 O2



RN 84137-04-2 HCAPLUS  
CN Lowicryl K 4M (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 122157-68-0 HCAPLUS  
CN JB 4 (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L24 ANSWER 41 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1990:228807 HCAPLUS  
DN 112:228807  
TI Water-soluble quinolin-8-ol polymer for liquid-phase separation of  
elements  
AU Geckeler, K. E.; Bayer, E.; Vorob'eva, G. A.; Spivakov, B. Ya.  
CS Inst. Org. Chem., Univ. Tuebingen, Tuebingen, D-7400/1, Fed. Rep. Ger.  
SO Anal. Chim. Acta (1990), 230(1), 171-4  
CODEN: ACACAM; ISSN: 0003-2670  
DT Journal  
LA English  
AB The sepn. of various elements by a water-sol. quinolin-8-ol polymer in  
conjunction with membrane filtration is demonstrated. The method is  
based  
on the retention of inorg. ions by a quinolin-8-ol deriv. of  
poly(ethylenimine) in a membrane filtration cell and subsequent sepn. of  
low-mol.-wt. species from the polymer **complex** formed.  
Poly(ethylenimine) and the polymeric quinolin-8-ol deriv. can retain  
metal  
ions in aq. soln. The polymer, however, exhibits a much higher retention  
capability in acidic soln. with respect to more highly charged metal  
ions,  
such as Zr, Nb, W, Bi, and can therefore be used for sepg. them from ions  
that do not form stable quinolinolates. At higher pH, the water-sol.  
quinolin-8-ol polymer can be applied to the sepn. and preconcn. of many  
metal ions. Owing to the **hydrophilic** nature of the polymer  
**complex** in soln., the presep. elements remain in the aq. phase,  
which is convenient for their subsequent **detn.** by at. absorption  
spectrometry, inductively coupled plasma-at. emission spectrometry, etc.  
IT 9002-98-6, Poly(ethylenimine) 9002-98-6D,  
Poly(ethylenimine), reaction products with 5-chloromethyl-8-  
hydroxyquinoline  
RL: ANST (Analytical study)  
(in liq.-phase sepn. of metal cations with membrane filtration)  
RN 9002-98-6 HCAPLUS  
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 151-56-4  
CMF C2 H5 N



RN 9002-98-6 HCAPLUS  
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 151-56-4

GABEL

09/403085

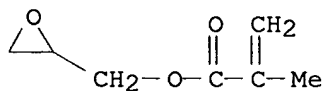
CMF C2 H5 N



L24 ANSWER 42 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1990:15640 HCAPLUS  
DN 112:15640  
TI **Complexing** sorbents based on glycidyl methacrylate gels with  
imidazole groups for preconcentration of trace elements  
AU Shcherbinina, N. I.; Ishmiyarova, G. R.; Kahovec, J.; Svec, F.;  
Bol'shakova, L. I.; Myasoedova, G. V.; Savvin, S. B.  
CS V. I. Vernadskii Inst. Geochem. Anal. Chem., Moscow, Czech.  
SO Zh. Anal. Khim. (1989), 44(4), 615-19  
CODEN: ZAKHA8; ISSN: 0044-4502  
DT Journal  
LA Russian  
AB Sorbents were synthesized by treating macroporous **hydrophilic**  
copolymers of glycidyl methacrylate and ethylene dimethacrylate with  
imidazole and benzimidazole, and their acid-base and sorption  
characteristics with respect to **Cu(II)**, **Zn(II)**,  
**Ni(II)**, **Au(III)**, and **Pd(II)** were **detd**  
. The kinetic properties and distribution coeffs. of the sorbents  
exceeded those of the vinylbenzimidazole-based sorbent (Shvoeva, O.P., et  
al., 1986). The metals can be extd. quant. from solns. of .ltoreq.230 g  
L-1 salt concns. The sorbent contg. imidazole groups, having better  
sorption characteristics, was used for preconcg. **Cu**, **Ni**  
, **Zn**, **Co**, and **Pb** from brines contg. 60-109 g  
L-1 salts. The preconcd. metals in 2M HCl solns. were **detd.** by  
inductively coupled-plasma at.-emission spectroscopy with the relative  
std. deviations varying from 0.08 to 0.21 (n = 3, P = 0.95).  
IT **31743-77-8DP**, Ethylene dimethacrylate-glycidyl methacrylate  
copolymer, reaction products with benzimidazole and imidazole  
RL: PREP (Preparation)  
(prepn. and sorption properties and use of, for preconcn. in trace  
metal **detn.** in brines)  
RN 31743-77-8 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with  
oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

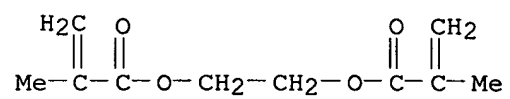
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CRN 106-91-2  
CMF C7 H10 O3



CM 2

CRN 97-90-5  
CMF C10 H14 O4



L24 ANSWER 43 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1989:403645 HCAPLUS  
DN 111:3645  
TI Comparison of LR White resin, Lowicryl K4M and Epon postembedding  
procedures for immunogold staining of actin in the testis  
AU Kann, M. L.; Fouquet, J. P.  
CS Lab. Histol., UER Biomed., Paris, F-75270, Fr.  
SO Histochemistry (1989), 91(3), 221-6  
CODEN: HCMYAL; ISSN: 0301-5564  
DT Journal  
LA English  
AB The efficiency of various postembedding procedures for actin immunogold  
**detection** was compared using testicular tissue as a model.  
Whatever the fixative, testes embedded in LR White resin or in Lowicryl  
K4M showed few differences with regard to ultrastructural preservation  
and gave similar actin antigenicity preservation. A purified polyclonal  
antibody (IgG) and a monoclonal antibody (IgM) visualized with  
**gold** secondary antibody yielded high labeling intensity whereas  
the IgG-protein-A **gold** assocn. was less efficient. Crude  
antisera gave a low specific staining/background ratio. Samples of  
testes, fixed in different conditions, were also embedded in Epon,  
omitting propylene oxide and lowering polymn. temp. to  
40.degree.-50.degree.. This slight modification improved ultrastructural  
preservation which was better than with **hydrophilic** resins, as  
well as made possible immunogold **detection** of actin though  
antigenicity preservation was lesser than with these resins. Thus, the  
Epon embedded samples actin labeling, using IgG antiactin-**gold**  
secondary antibody, was similar to that obsd. after **hydrophilic**  
resin-protein-A **gold** procedures. In addn. to actin labeling of  
various somatic cells it was confirmed that actin is a consistent  
component of the subacrosomal space of spermatids during the greater part  
of spermiogenesis in rat.  
IT 30525-89-4, Paraformaldehyde 84137-04-2, Lowicryl K4M  
RL: ANST (Analytical study)  
(in actin **detection** in testis by immunogold staining)  
RN 30525-89-4 HCAPLUS  
CN Paraformaldehyde (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 50-00-0  
CMF C H2 O

H<sub>2</sub>C=O

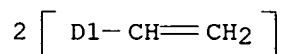
RN 84137-04-2 HCAPLUS  
CN Lowicryl K 4M (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L24 ANSWER 44 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1988:621475 HCAPLUS  
DN 109:221475  
TI Metal sorption of macroreticular poly(4-vinylpyridine) resins crosslinked with oligo(ethylene glycol dimethacrylates)  
AU Sugii, Atsushi; Ogawa, Naotake; Harada, Kumiko; Nishimura, Koichi  
CS Fac. Pharm. Sci., Kumamoto Univ., Kumamoto, 862, Japan  
SO Anal. Sci. (1988), 4(4), 399-402  
CODEN: ANSCEN; ISSN: 0910-6340  
DT Journal  
LA English  
AB Poly(4-vinylpyridine), 4VP, resins crosslinked with oligo(ethylene glycol dimethacrylates) were used for chelating resins. Sorption for some metal ions by **complexation** in acetate buffer (pH 3-6) was investigated mainly by using the 4VP resins crosslinked with **hydrophilic** tetraethylene glycol dimethacrylate (4VP-4EG) and that crosslinked with hydrophobic divinylbenzene (4VP-DVB). The difference in crosslinkers of the 4VP resins strongly affected the sorption behavior, such as the pH profile of the sorption of metal ions and the capacity for **Co** (II), **Ni**(II), and **Cu**(II). 4VP-4EG showed higher metal sorption than 4VP-DVB in acetate buffer, suggesting that **hydrophilicity** of the resin matrix, other than chelating groups, should be taken into account in the design of chelating resins.  
IT 9017-40-7, 4-Vinylpyridine-divinylbenzene copolymer  
75944-35-3 107339-25-3 117646-63-6  
RL: ANST (Analytical study)  
(chelating ion-exchanger, for metal sepn.)  
RN 9017-40-7 HCAPLUS  
CN Pyridine, 4-ethenyl-, polymer with diethenylbenzene (9CI) (CA INDEX NAME)

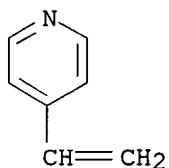
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CRN 1321-74-0  
CMF C10 H10  
CCI IDS  
CDES 8:ID



CM 2

CRN 100-43-6  
CMF C7 H7 N



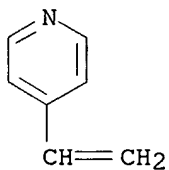
RN 75944-35-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with 4-ethenylpyridine (9CI) (CA INDEX NAME)

CM 1

CRN 100-43-6

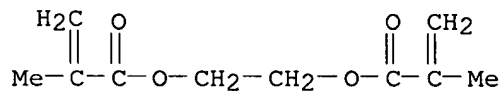
CMF C7 H7 N



CM 2

CRN 97-90-5

CMF C10 H14 O4



RN 107339-25-3 HCAPLUS

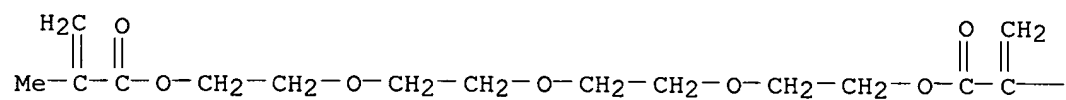
CN 2-Propenoic acid, 2-methyl-, oxybis(2,1-ethanediylloxy-2,1-ethanediyl) ester, polymer with 4-ethenylpyridine (9CI) (CA INDEX NAME)

CM 1

CRN 109-17-1

CMF C16 H26 O7

PAGE 1-A



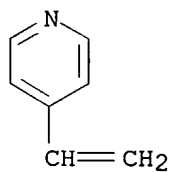
PAGE 1-B

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CM 2

CRN 100-43-6

CMF C7 H7 N



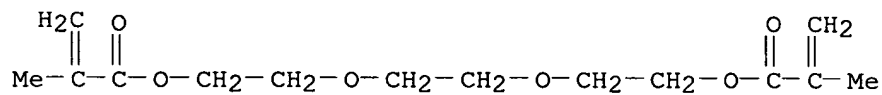
RN 117646-63-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediylbis(oxy-2,1-ethanediyl) ester,  
polymer with 4-ethenylpyridine (9CI) (CA INDEX NAME)

CM 1

CRN 109-16-0

CMF C14 H22 O6



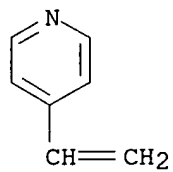
CM 2

CRN 100-43-6

CMF C7 H7 N

GABEL

09/403085



L24 ANSWER 45 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
 AN 1988:451293 HCAPLUS  
 DN 109:51293  
 TI Preparation and use of polychelating agents for image and spectral enhancement (and spectral shift)  
 IN Ranney, David F.  
 PA University of Texas System, USA  
 SO PCT Int. Appl., 109 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8702893	A1	19870521	WO 1986-US2479	19861118
	W: AT, AU, BB, BG, BR, CH, DE, DK, FI, GB, HU, JP, KP, KR, LK, LU, MC, MG, MW, NL, NO, RO, SD, SE, SU, US				
	RW: AT, BE, CF, CG, CH, CM, DE, FR, GA, GB, IT, LU, ML, MR, NL, SE, SN, TD, TG				
	AU 8666215	A1	19870602	AU 1986-66215	19861118
	EP 247156	A1	19871202	EP 1986-907195	19861118
	EP 247156	B1	19930623		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	JP 63501798	T2	19880721	JP 1986-506116	19861118
	JP 07110815	B4	19951129		
	AT 90879	E	19930715	AT 1986-907195	19861118
	CA 1280364	A1	19910219	CA 1987-526868	19870107
	US 5155215	A	19921013	US 1990-613465	19901107
	US 5336762	A	19940809	US 1991-642033	19910116
PRAI	US 1985-799757		19851118		
	EP 1986-907195		19861118		
	WO 1986-US2479		19861118		
	US 1987-86692		19870807		
AB	Image-enhancing agents comprise biodegradable, water-sol. polymers, synthetic or naturally derived and having repeating <b>hydrophilic</b> monomeric units with amino or hydroxyl groups; and chelating agents comprising functional groups bound to an amino, quaternary ammonium, sulfate, carboxyl, hydroxyl, or other reactive group of the monomeric units and having a formation const. for divalent or trivalent metal cations at physiol. temp. and pH of .gtoreq.108. The agent is biodegradable to intermediary metabolites, excretable chelates, oligomers, or monomers of low toxicity. They may further comprise paramagnetic metal ions, radioisotopic metals emitting .gamma. particles, or relatively dense metals for enhancement in magnetic resonance imaging, radioisotope scanning, or ultrasound imaging, resp. The phys. conversion of these agents into microspheres allows further internal directioning of the agents to organs with phagocytic capabilities. Rats bearing hepatomas were NMR-imaged both before and after i.v. injections of Gd:DTPA-dextran microspheres (prepn. described). The microspheres produced a selective enhancement of the tumor (by visual inspection) in relation to surrounding				

normal liver and all other organs. Tumor enhancement was maximal in the T1 modes but was also obsd. in the T2 mode. The enhancement became strong

at 25 min post-injection and persisted unchanged over the 2.5-h interval of imaging.

IT **9004-54-0D**, Dextran, conjugates with polychelators and metal ions  
**9005-49-6D**, Heparin, conjugates with polychelators and metal ions  
 RL: ANST (Analytical study)  
 (as image-enhancement agents)

RN 9004-54-0 HCAPLUS

CN Dextran (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9005-49-6 HCAPLUS

CN Heparin (8CI, 9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT **9004-54-0DP**, Dextran, reaction products with gadolinium-DPTA

**9005-49-6DP**, Heparin, reaction products with gadolinium-DPTA

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of, as image-enhancement agents)

RN 9004-54-0 HCAPLUS

CN Dextran (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9005-49-6 HCAPLUS

CN Heparin (8CI, 9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT **115403-44-6P**

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of, in prepn. of image-enhancement agents)

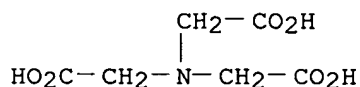
RN 115403-44-6 HCAPLUS

CN Glycine, N,N-bis(carboxymethyl)-, polymer with 1,2,3-propanetriol (9CI)  
 (CA INDEX NAME)

CM 1

CRN 139-13-9

CMF C6 H9 N O6



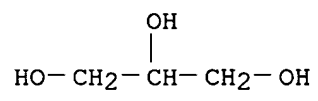
CM 2

CRN 56-81-5

CMF C3 H8 O3

GABEL

09/403085



L24 ANSWER 46 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
 AN 1988:434846 HCAPLUS  
 DN 109:34846  
 TI Method of preparing integral multilayer **analytical** element  
 containing a spreading action controller  
 IN Mitsutoshi, Tanaka; Fuminori, Arai; Kaoru, Terashima; Nakatsugu, Yaginuma  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO Eur. Pat. Appl., 14 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 FAN.CNT 1

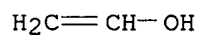
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PI	EP 254202	A1	19880127	EP 1987-110240	19870715
	EP 254202	B1	19910918		
	R: DE, GB				
	JP 63021553	A2	19880129	JP 1986-164570	19860715
	JP 07013635	B4	19950215		
	JP 63025556	A2	19880203	JP 1986-168091	19860718
	JP 06019354	B4	19940316		
	US 4871679	A	19891003	US 1987-73759	19870715
	US 4966784	A	19901030	US 1989-339015	19890414
PRAI	JP 1986-164570	19860715			
	JP 1986-168091	19860718			
	US 1987-73759	19870715			

AB A dry-type integral multilayer **anal.** element, e.g. for  
**anal.** of a body fluid, comprises a water-impermeable  
 light-transmissive support, a reagent layer contg. a water-sol.  
 indicator,  
 and a porous spreading layer contg. a spreading action controller (SAC).  
 The SAC is applied to the spreading layer as a soln. in an org. solvent  
 which does not dissolve the water-sol. indicator, and the org. solvent is  
 removed by drying. The SAC, which may be a **hydrophilic** polymer  
 and/or a nonionic surfactant, prevents migration of the indicator into  
 the  
 spreading layer, and thus increases the accuracy of measurement. In an  
**anal.** element for **detn.** of Ca<sup>2+</sup>, the spreading layer  
 contains an acid for decomp. the Ca compds. in a sample. An **anal.**  
 . element for **detn.** of Ca<sup>2+</sup> in serum comprised (1) a transparent  
 polyethylene terephthalate (PET) film, (2) a water absorption layer  
 contg.  
 gelatin, nonylphenoxyethoxyethanol, and 1,2-  
 bis(vinylsulfonylacetamide)ethane, (3) a reagent layer contg. gelatin,  
 polyoxyethylene nonyl Ph ether (PNPE), 3-(cyclohexylamino)-1-  
 propanesulfonate, o-cresolphthalein **complexone**, and  
 8-hydroxyquinoline-5-sulfonic acid, and (4) an adhesive layer contg.  
 gelatin, PNPE, and TiO<sub>2</sub> particles. A PET tricot fabric cloth was  
 laminated onto the element as the spreading layer; an EtOH soln. of PVP  
 and PNPE (SAC's) was applied to the spreading layer and dried. Replicate  
 photometric **analyses** with multiple **anal.** elements  
 showed a remarkably small dispersion of the measured values.  
 IT 9002-89-5, Polyvinyl alcohol 9003-01-4, Polyacrylic acid  
 9003-39-8, Polyvinyl pyrrolidone 25322-68-3D, esters

RL: ANST (Analytical study)  
(as spreading controller, in multilayer anal. element)  
RN 9002-89-5 HCAPLUS  
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

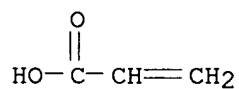
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RN 9003-01-4 HCAPLUS  
CN 2-Propenoic acid, homopolymer (9CI) (CA INDEX NAME)

CM 1

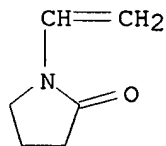
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CMF C3 H4 O2



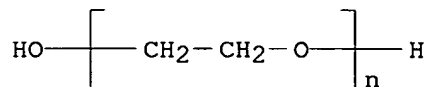
RN 9003-39-8 HCAPLUS  
CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 88-12-0  
CMF C6 H9 N O



RN 25322-68-3 HCAPLUS  
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



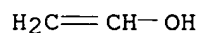
GABEL

09/403085

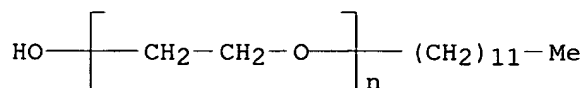
L24 ANSWER 47 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1988:403251 HCAPLUS  
DN 109:3251  
TI Methylation of residual carboxyl groups in gel permeation column and its effect on elution and distribution of metals and proteins in blood serum  
AU Sunaga, Hiroyuki; Suzuki, Kazuo T.  
CS Natl. Inst. Environ. Stud., Yatabe, 305, Japan  
SO J. Liq. Chromatogr. (1988), 11(3), 701-11  
CODEN: JLCHD8; ISSN: 0148-3919  
DT Journal  
LA English  
AB Residual carboxyl groups in gel permeation column materials (hydrophilic polymer gels) (Asahipak GS-520) were methylated with boron trifluoride methanol **complex** to minimize the interaction of metals between the ligands in substrates and in gel materials. Although **Zn** ions were eluted very slowly as an extremely broad peak on the original column, the metal ions were eluted faster as a lesser broad peak on the methylated column. Cd ions were eluted faster as a relatively sharp peak on the methylated column than the original column. Alkali earth metal ions were eluted also as sharper peaks on the methylated column. **Zn** in rat serum was eluted more with globulins and less with albumin on the methylated column than on the original column. Globulins and albumin in rat and human sera were sepd. more efficiently on the methylated column. These results suggest that methylation of residual carboxyl groups in gel materials decreased the interaction of metals with gel materials and increased hydrophobicity of the gel materials.  
IT 97707-90-9, Asahipak GS-520  
RL: PRP (Properties)  
(methylation of carboxyl groups in, metal and protein elution response to)  
RN 97707-90-9 HCAPLUS  
CN Asahipak GS 520 (9CI) (CA INDEX NAME)  
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L24 ANSWER 48 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1988:227430 HCAPLUS  
DN 108:227430  
TI New chelating sorbents based on fibrous materials filled with  
**complexing** ion exchangers  
AU Myasoedova, G. V.; Antokol'skaya, I. I.; Shvoeva, O. P.; Mezhirov, M. S.;  
Savin, S. B.  
CS V. I. Vernadskii Inst. Geochem. Anal. Chem., Moscow, USSR  
SO Solvent Extr. Ion Exch. (1988), 6(2), 301-21  
CODEN: SEIEDB; ISSN: 0736-6299  
DT Journal  
LA English  
AB The properties and **anal.** applications of a new type of selective  
sorbents - fibrous materials filled with **complexing** ion  
exchangers - POLYORGS XI-N and Polyarsenazo-n - were considered. This  
type of sorbents consists of porous **hydrophilic** fibers contg.  
fine-grained polymeric sorbents (fillers). The sorptive and kinetic  
properties of these materials were measured. These sorbents are  
sufficiently selective and exhibit high sorptive capacity and fast  
kinetics. The sorbent POLYORGS XI-N was used for preconcn. of noble  
metals from natural and industrial materials. The **anal.**  
**detns.** were performed by at. absorption spectrometry of a  
suspension of the filler in N,N-dimethylformamide. The sorbent  
Polyarsenazo-n is used for preconcn. of U and rare earths prior to their  
**detn.** in waters.  
IT **113355-81-0**, Polyarsenazo-n  
RL: PRP (Properties)  
by (chelating sorbent of, fibrous, preconcn. of uranium and lanthanides  
sorption on, before **detn.** in water)  
RN 113355-81-0 HCAPLUS  
CN Polyarsenazo N (9CI) (CA INDEX NAME)  
  
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

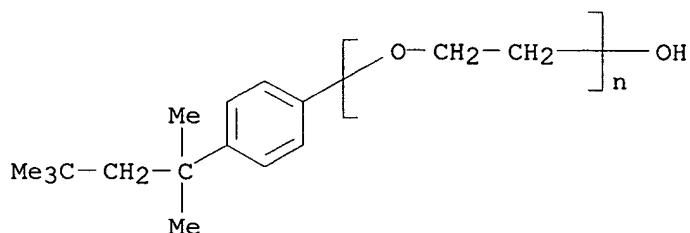
L24 ANSWER 49 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
 AN 1988:146524 HCAPLUS  
 DN 108:146524  
 TI Application of xanthene derivatives for **analytical** chemistry.  
 LXVII. Approach to **analytical** chemistry of saponins:  
 application of saponin as a surfactant having **complex**-forming  
 ability to spectrophotometry of **iron** ion  
 AU Fujita, Yoshikazu; Mori, Itsuo; Fujita, Kinuko; Nakahashi, Yoshihiro  
 CS Osaka Univ. Pharm Sci., Matsubara, 580, Japan  
 SO Chem. Pharm. Bull. (1988), 36(1), 254-62  
 CODEN: CPBTAL; ISSN: 0009-2363  
 DT Journal  
 LA English  
 AB An attempt was made to apply saponin to **anal.** spectrophotometry;  
 color reactions between o-hydroxyhydroquinonephthalein (Qnph) and several  
 metal ions in the presence of surfactants including saponin were studied  
 in weakly basic media. A simple, sensitive, and selective  
 spectrophotometric **detn.** of **Fe** (Fe<sup>3+</sup> + Fe<sup>2+</sup>) was  
 developed with Qnph and saponin. The apparent molar absorptivity for  
**Fe** was 1.18 .times. 10<sup>5</sup> L mol<sup>-1</sup> cm<sup>-1</sup> at 565 nm. It was suggested  
 that saponin is a surfactant having **complex**-forming ability with  
 metal ions, and **Fe** combined with **hydrophilic** sugar  
 groups in the saponin. The proposed method was applied to the assay of  
**Fe** in rain water, tap water, human urine, and calf serum, and the  
**anal.** results were in good agreement with those obtained by at.  
 absorption spectrometry, inductively coupled plasma at. emission  
 spectroscopy, and spectrophotometry with bathophenanthroline.  
 IT 9002-89-5, Polyvinyl alcohol 9002-92-0, Brij 35  
 9002-93-1, Triton X 100 9003-39-8, Polyvinyl pyrrolidone  
 9004-54-0, Dextran 70, properties 25322-68-3, PEG 400  
 RL: ANST (Analytical study)  
 (color reaction between **iron** and hydroxyhydroquinonephthalein  
 response to)  
 RN 9002-89-5 HCAPLUS  
 CN Ethenol, homopolymer (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 557-75-5  
 CMF C2 H4 O



RN 9002-92-0 HCAPLUS  
 CN Poly(oxy-1,2-ethanediyl), .alpha.-dodecyl-.omega.-hydroxy- (9CI) (CA  
 INDEX NAME)



RN 9002-93-1 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-  
.omega.-hydroxy- (9CI) (CA INDEX NAME)

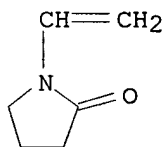
RN 9003-39-8 HCAPLUS

CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 88-12-0

CMF C6 H9 N O



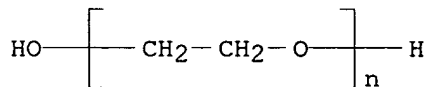
RN 9004-54-0 HCAPLUS

CN Dextran (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 25322-68-3 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT 9005-64-5, Tween 20

RL: ANST (Analytical study)

(color reactions between hydroxyhydroquinonephthalein and metal ions  
response to)

RN 9005-64-5 HCAPLUS

CN Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivs. (9CI) (CA INDEX NAME)

GABEL

09/403085

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L24 ANSWER 50 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1988:106592 HCAPLUS  
DN 108:106592  
TI High-performance immobilized metal ion affinity chromatography of peptides: **analytical** separation of biologically active synthetic peptides  
AU Nakagawa, Yasuo; Yip, Tai Tung; Belew, Makonnen; Porath, Jerker  
CS Inst. Biochem., Univ. Uppsala, Uppsala, S-751 23, Swed.  
SO Anal. Biochem. (1988), 168(1-4), 75-81  
CODEN: ANBCA2; ISSN: 0003-2697  
DT Journal  
LA English  
AB The sepn. of >30 biol. active synthetic peptides and their analogs on a high-performance immobilized metal ion affinity chromatog. column is described. The metal-chelating gel (TSK gel chelate-5PW) contains iminodiacetic acid (IDA) covalently coupled to a **hydrophilic**, resin-based matrix with a bead diam. of 10 .mu.m. The retention of the peptides on **Cu(II)**, **Ni(II)**, and **Zn(II)** ions immobilized on the chelating gel showed that some of them can be sepd. by isocratic elution, whereas the majority of them are retained and are sepd. into distinct fractions by elution with a linear imidazole gradient or with a continuously decreasing pH gradient. Of the 3 immobilized metal ions investigated here, the IDA-**Cu(II)** chelate column gave the best resoln. irresp. of the type of gradient used. This is amply illustrated by the resoln. of angiotensins I and II and their 4 synthetic analogs. The results obtained serve as guidelines for the future exploitation of this sepn. method for the efficient fractionation of a wide variety of peptides on an **anal.** or preparative scale.  
IT **9034-40-6**, LH-RH **9088-01-1**  
RL: ANST (Analytical study)  
(sepn. of, by high-performance immobilized metal ion affinity chromatog.)  
RN 9034-40-6 HCAPLUS  
CN Luteinizing hormone-releasing factor (9CI) (CA INDEX NAME)  
  
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*  
RN 9088-01-1 HCAPLUS  
CN Angiotensin II, 1-(N-methylglycine)-8-L-isoleucine- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L24 ANSWER 51 OF 55 HCAPLUS COPYRIGHT 2001 ACS

AN 1985:434515 HCAPLUS

DN 103:34515

TI Overcoat compositions and ion-selective electrodes for ionic  
**analyte determinations**

IN Detwiler, Richard L.; Schlegel, Brooke P.; Kissel, Thomas R.

PA Eastman Kodak Co., USA

SO U.S., 4 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4505801	A	19850319	US 1984-569695	19840110
	CA 1233298	A1	19880223	CA 1984-463097	19840913
	EP 149246	A2	19850724	EP 1984-116417	19841228
	EP 149246	A3	19870513		
	EP 149246	B1	19900228		
	R: CH, DE, FR, GB, IT, LI, SE				
	JP 60220854	A2	19851105	JP 1985-984	19850109
	JP 06008798	B4	19940202		
PRAI	US 1984-569695		19840110		

AB An overcoat compn. is described for use in ion-selective electrodes. It comprises: (a) a discontinuous liq. phase comprising an oleophilic solvent

dispersed within a continuous phase comprising a **hydrophilic** binder; (b) a **complexing** agent useful for extg. oleophilic anions; (c) a buffer which provides a pH in the range of from about 7.5 to

about 9.5 under conditions of use; and (d) a nucleating agent. This overcoat compn. is particularly useful in ion-selective electrodes for **detn.** of CO<sub>2</sub> in human blood. For example, an ion-selective electrode for CO<sub>2</sub> **detn.** has an overcoat layer contg. poly(2-hydroxyethyl acrylate-co-acrylic acid, Na salt-co -N-isopropylacrylamide), trioctylpropylammonium chloride, diisodecyl phthalate, Triton X 305, and Ca silicate.

IT 51569-39-2

RL: ANST (Analytical study)

(ion-selective electrode electrolyte layer contg., for carbon dioxide **detn.** in human body fluids)

RN 51569-39-2 HCAPLUS

CN Oxiranemethanol, homopolymer, nonylphenyl ether (9CI) (CA INDEX NAME)

CM 1

CRN 25154-52-3

CMF C15 H24 O

CCI IDS

CDES 8:ID



D1-OH

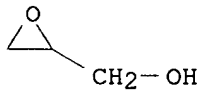
D1-(CH<sub>2</sub>)<sub>8</sub>-Me

CM 2

CRN 25722-70-7  
 CMF (C3 H6 O2)x  
 CCI PMS

CM 3

CRN 556-52-5  
 CMF C3 H6 O2



IT 9003-22-9 25086-48-0

RL: ANST (Analytical study)

(ion-selective electrode membrane contg., for carbon dioxide  
 detn. in human body fluids)

RN 9003-22-9 HCAPLUS

CN Acetic acid ethenyl ester, polymer with chloroethene (9CI) (CA INDEX NAME)

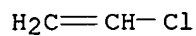
CM 1

CRN 108-05-4  
 CMF C4 H6 O2

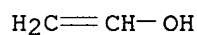
AcO-CH=CH<sub>2</sub>

CM 2

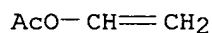
CRN 75-01-4  
 CMF C2 H3 Cl



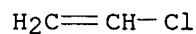
RN 25086-48-0 HCAPLUS  
CN Acetic acid ethenyl ester, polymer with chloroethene and ethenol (9CI)  
(CA INDEX NAME)  
CM 1  
CRN 557-75-5  
CMF C2 H4 O



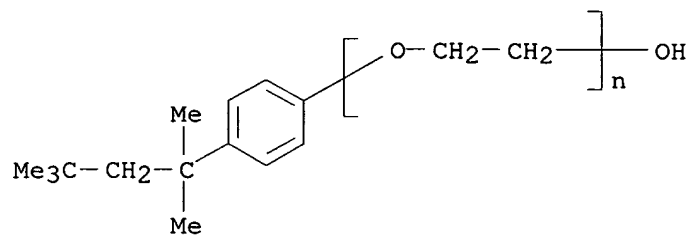
CM 2  
CRN 108-05-4  
CMF C4 H6 O2



CM 3  
CRN 75-01-4  
CMF C2 H3 Cl



IT 9002-93-1 78733-36-5  
RL: ANST (Analytical study)  
(overcoat compn. of ion-selective electrode contg., for carbon dioxide  
detn. in human body fluids)  
RN 9002-93-1 HCAPLUS  
CN Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-  
.omega.-hydroxy- (9CI) (CA INDEX NAME)



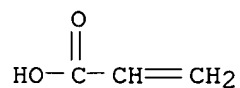
RN 78733-36-5 HCAPLUS

CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with N-(1-methylethyl)-2-propenamide and sodium 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 7446-81-3

CMF C3 H4 O2 . Na

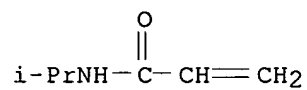


● Na

CM 2

CRN 2210-25-5

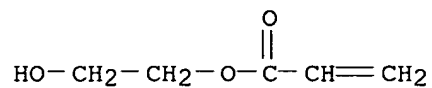
CMF C6 H11 N O



CM 3

CRN 818-61-1

CMF C5 H8 O3



GABEL

09/403085

L24 ANSWER 52 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1983:463939 HCAPLUS  
DN 99:63939  
TI Characterization of the adducts produced in DNA by cis-diamminedichloroplatinum(II) and cis-dichloro(ethylenediamine)  
**platinum**(II)  
AU Eastman, Alan  
CS Coll. Med., Univ. Vermont, Burlington, VT, 05405, USA  
SO Biochemistry (1983), 22(16), 3927-33  
CODEN: BICHAW; ISSN: 0006-2960  
DT Journal  
LA English  
AB <sup>3</sup>H-labeled cis-dichloro(ethylenediamine)**platinum**(II) (cis-DEP),  
an analog of the antitumor cis-diamminedichloroplatinum (II) (cis-DDP)  
was incubated with DNA, defined nucleic acid heteropolymers, and dinucleoside monophosphates. The products were enzymically digested to deoxyribonucleosides or oligonucleotides and sepd. by high-pressure liq. chromatog. The identity of the adducts was confirmed after removal of  
the drug with 1 M thiourea and **anal.** of the constituent nucleotides. At low levels of modification of DNA, >50% of the lesions were attributed to an intrastrand crosslink between 2 neighboring guanines; enzymic removal of the phosphate between the 2 nucleosides being inhibited by the **complex**. At higher levels of modification, these sites became satd., and pronounced reaction occurred at several other sites. One of these represented an intrastrand crosslink between a neighboring adenine and guanine. Reaction was also demonstrated between 2 guanines sepd. by  
a 3rd base, the latter being removed during digestion. This was a relatively minor adduct. More frequent was an intrastrand crosslink between adenine and guanine sepd. by a 3rd base. In this case, the 3rd base was retained during digestion. These trinucleotides were shown to contain either adenine, cytosine, guanine, or thymine as their middle base. A specific orientation in the DNA was also obsd. with adenine always at the 5' terminus. An addnl., more **hydrophilic** adduct was identified by denaturation studies as an interstrand crosslink, but  
it represented a max. of 1% of the total platination. A small proportion of monofunctional adducts, predominantly deoxyguanosine dependent, were also detected. These reacted with protein during digestion and  
chromatographed as the protein-Pt-nucleoside **complex**. These monofunctional adducts arose preferentially during short incubation of drug and DNA, but the majority of adducts appeared to arise by direct bifunctional attack. At high levels of DNA modification, it was also possible to characterize the interaction of cis-DDP with DNA as the adducts were detectable by absorbance. Adducts were obtained at  
identical sites in DNA with both cis-DDP and cis-DEP.  
IT 24939-09-1 25512-84-9 26966-61-0  
36786-90-0 55684-99-6  
RL: PRP (Properties)  
(characterization of, as reaction product of **platinum** compds.

and DNA)  
RN 24939-09-1 HCAPLUS  
CN 5'-Adenylic acid, 2'-deoxy-, homopolymer, complex with 5'-thymidylic acid  
homopolymer (1:1) (9CI) (CA INDEX NAME)

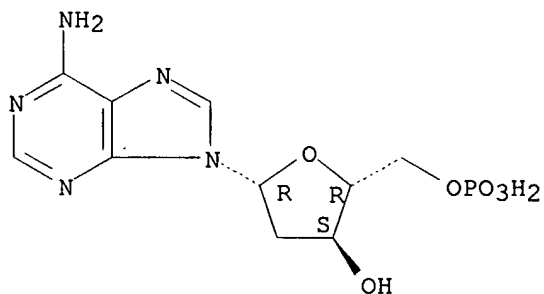
CM 1

CRN 25191-20-2  
CMF (C10 H14 N5 O6 P)x  
CCI PMS

CM 2

CRN 653-63-4  
CMF C10 H14 N5 O6 P

Absolute stereochemistry. Rotation (+).



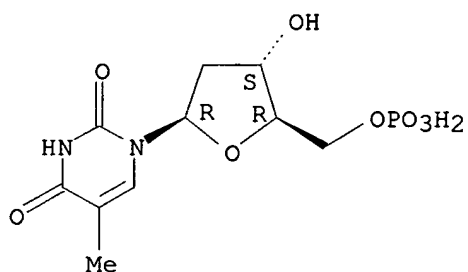
CM 3

CRN 25086-81-1  
CMF (C10 H15 N2 O8 P)x  
CCI PMS

CM 4

CRN 365-07-1  
CMF C10 H15 N2 O8 P  
CDES 5:B-D-ERYTHRO

Absolute stereochemistry.



RN 25512-84-9 HCAPLUS  
 CN 5'-Guanylic acid, 2'-deoxy-, homopolymer, complex with  
 2'-deoxy-5'-cytidylic acid homopolymer (1:1) (9CI) (CA INDEX NAME)

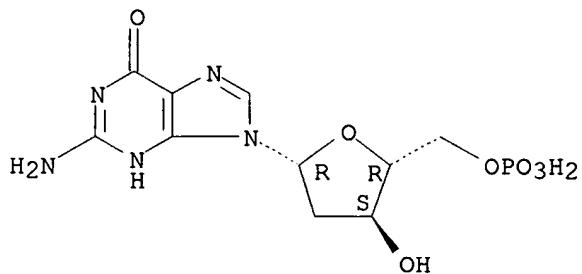
CM 1

CRN 25656-92-2  
 CMF (C10 H14 N5 O7 P)x  
 CCI PMS

CM 2

CRN 902-04-5  
 CMF C10 H14 N5 O7 P  
 CDES 5:B-D-ERYTHRO

Absolute stereochemistry.



CM 3

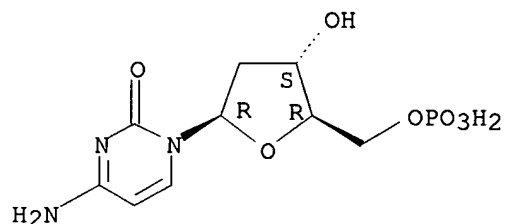
CRN 25609-92-1  
 CMF (C9 H14 N3 O7 P)x  
 CCI PMS

CM 4

CRN 1032-65-1  
 CMF C9 H14 N3 O7 P

## CDES 5:B-D-ERYTHRO

Absolute stereochemistry.



RN 26966-61-0 HCAPLUS

CN Thymidine, 2'-deoxy-5'-O-phosphonoadenylyl-(3'.fwdarw.5')-, homopolymer (9CI) (CA INDEX NAME)

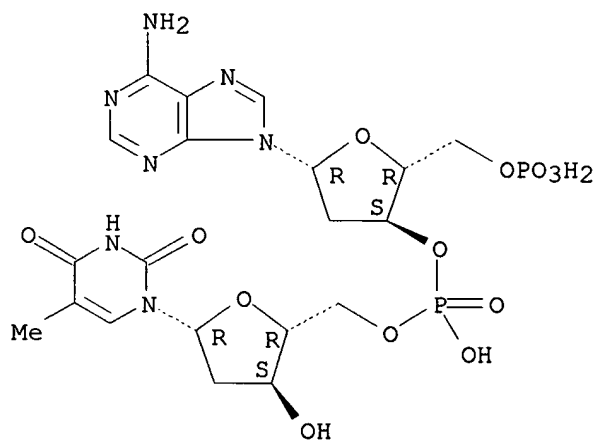
CM 1

CRN 2147-15-1

CMF C20 H27 N7 O13 P2

CDES 5:B-D-ERYTHRO,B-D-ERYTHRO

Absolute stereochemistry.



RN 36786-90-0 HCAPLUS

CN Cytidine, 2'-deoxy-5'-O-phosphonoguananylyl-(3'.fwdarw.5')-2'-deoxy-, homopolymer (9CI) (CA INDEX NAME)

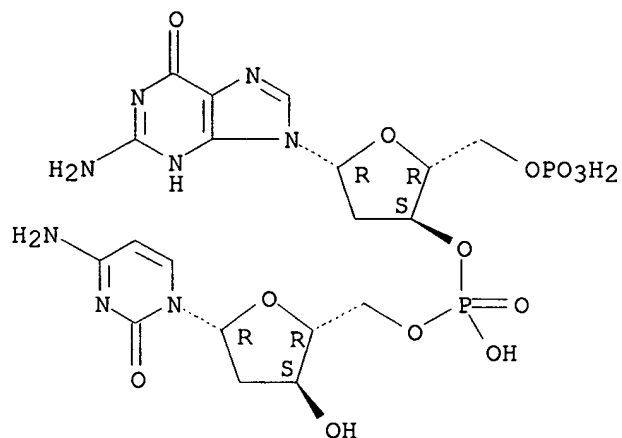
CM 1

CRN 2402-35-9

CMF C19 H26 N8 O13 P2

CDES 5:B-D-ERYTHRO,B-D-ERYTHRO

Absolute stereochemistry.



RN 55684-99-6 HCAPLUS

CN Thymidine, 2'-deoxy-5'-O-phosphonoguanlyl-(3'.fwdarw.5')-, homopolymer, complex with 2'-deoxy-5'-O-phosphonoadenylyl-(3'.fwdarw.5')-2'-deoxycytidine homopolymer (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 55684-98-5

CMF (C20 H27 N7 O14 P2)x

CCI PMS

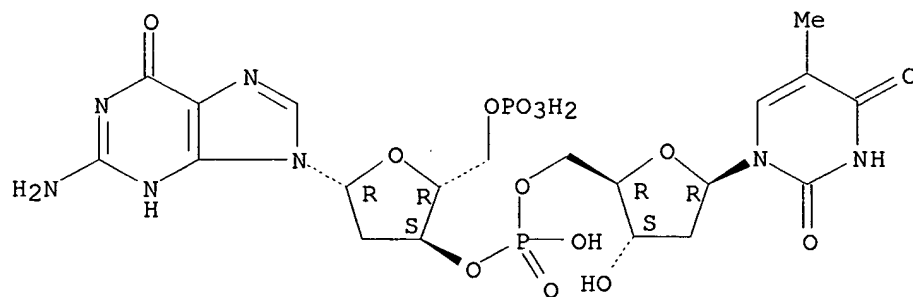
CM 2

CRN 38665-20-2

CMF C20 H27 N7 O14 P2

CDES 5:B-D-ERYTHRO,B-D-ERYTHRO

Absolute stereochemistry.



CM 3

CRN 49718-21-0

CMF (C19 H26 N8 O12 P2) x  
CCI PMS

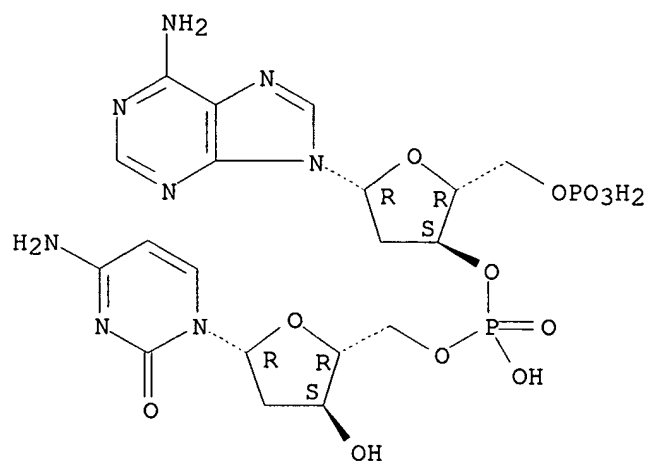
CM 4

CRN 38976-21-5

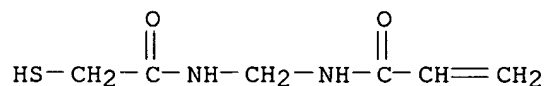
CMF C19 H26 N8 O12 P2

CDES 5:B-D-ERYTHRO,B-D-ERYTHRO

Absolute stereochemistry.

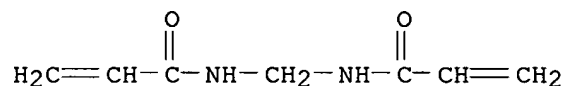


L24 ANSWER 53 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
 AN 1981:525436 HCAPLUS  
 DN 95:125436  
 TI Metal ion extraction with a thiol **hydrophilic** resin  
 AU Deratani, Andre; Sebille, Bernard  
 CS Lab. Physicochim. Biopolym., Univ. Paris-Val Marne, Creteil, 94010, Fr.  
 SO Anal. Chem. (1981), 53(12), 1742-6  
 CODEN: ANCHAM; ISSN: 0003-2700  
 DT Journal  
 LA English  
 AB The application of 30% N,N'-methylenebis(acrylamide) cross-linked poly[N-((acryloylamino)methyl)mercaptoacetamide] resin for the concn. of metal ions from aq. solns. was investigated. A flow injection **anal.** method with a color forming reagent was developed, allowing fast cation assays. The pH dependence of the metal extn. for Na, Ca, **Mn(II)**, **Fe(II)**, **Co(II)**, **Ni(II)**, **Cu(II)**, **Zn**, Ag(I), Cd, Hg(II), **Pb(II)**, and UO22+ was studied. Heavy metals and **Cu(II)** exhibit a high affinity toward the thiol functions of the resin (half extn. pH <2), with fast fixation kinetics owing to the **hydrophilic** matrix. The max. resin capacity depends on the metal ion, owing to the formation of ML2 or/and MLL' **complexes** involving thiol functions and anion ligands. The resin selectivity **detd.** at pH 5.5 is, in increasing order, **Zn**, Cd, **Pb(II)**, **Cu(II)**, and Hg(II).  
 IT **78260-24-9**  
 RL: ANST (Analytical study)  
 (as chelating resin, for sepn. of metal ions)  
 RN 78260-24-9 HCAPLUS  
 CN 2-Propenamide, N-[[ (mercaptoacetyl)amino]methyl]-, polymer with N,N'-methylenebis[2-propenamide] (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 78260-23-8  
 CMF C6 H10 N2 O2 S



CM 2

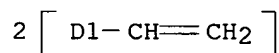
CRN 110-26-9  
 CMF C7 H10 N2 O2



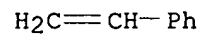
GABEL

09/403085

L24 ANSWER 54 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1981:170388 HCAPLUS  
DN 94:170388  
TI Preparation of polyfunctional and asymmetric adsorbents for chromatography. Application to the purification of cephalosporin C  
AU Sacco, Daniel; Dellacherie, Edith  
CS Lab. Chim. Phys. Macromol., CNRS, Nancy, 54042, Fr.  
SO Makromol. Chem. (1981), 182(3), 763-71  
CODEN: MACEAK; ISSN: 0025-116X  
DT Journal  
LA French  
AB Some asym. and polyfunctional stationary phases were prepd. by attachment of the .epsilon.-amino group of L-lysine-**Cu complex** to crosslinked polystyrene or agarose, substituted or not by **hydrophilic** spacer arms. After **Cu** elimination, the sorbents exhibit 3 functions, 1 of a carboxylic acid and 1 of an .alpha.-primary amine, and moreover 1 of a secondary amine located at a variable distance far from the asym. C, but near the backbone of polymer. These sorbents were tested in the chromatog. extn. of cephalosporin C from an aq. mixt. contg. several .alpha.-amino acids. They exhibit an affinity higher for the antibiotic than for the amino acids and even for the dicarboxylic amino acids.  
IT **9003-70-7**  
RL: RCT (Reactant)  
(chloromethylation of)  
RN 9003-70-7 HCAPLUS  
CN Benzene, diethenyl-, polymer with ethenylbenzene (9CI) (CA INDEX NAME)  
CM 1  
CRN 1321-74-0  
CMF C10 H10  
CCI IDS  
CDES 8:ID



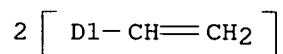
CM 2  
CRN 100-42-5  
CMF C8 H8



IT 9003-70-7DP, chloromethylated, reaction products with amino acids  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and reaction of, with di-Me sulfide)  
RN 9003-70-7 HCAPLUS  
CN Benzene, diethenyl-, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

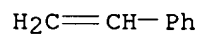
CM 1

CRN 1321-74-0  
CMF C10 H10  
CCI IDS  
CDES 8:ID



CM 2

CRN 100-42-5  
CMF C8 H8



L24 ANSWER 55 OF 55 HCAPLUS COPYRIGHT 2001 ACS  
AN 1978:539978 HCAPLUS  
DN 89:139978  
TI Ligand-exchange chromatography of amino acids on **copper**-loaded  
chitosan  
AU Muzzarelli, Riccardo A. A.; Tanfani, Fabio; Muzzarelli, Maria G.;  
Scarpini, Gianfranco; Rocchetti, Roberto  
CS Fac. Med., Univ. Ancona, Ancona, Italy  
SO Sep. Sci. Technol. (1978), 13(10), 869-79  
CODEN: SSTEDS; ISSN: 0149-6395  
DT Journal  
LA English  
AB Amino acids are retained on the **Cu** form and on the amminecopper  
form of chitosan, esp. aspartic acid, glutamic acid, tryptophan, and  
cysteine. The best conditions for collection and for elution are in  
phosphate buffers at pH 7 and 12, resp. No leakage of **Cu**  
occurs; the amino acids are recovered as **Cu complexes**  
with a **Cu**/amino acid ratio of 1:2. Several advantages of  
chitosan over the resin Chelex are pointed out; namely, the absence of  
swelling, great **Cu** capacity, **hydrophilicity**, and  
porous structure.  
IT **9012-76-4**  
RL: ANST (Analytical study)  
(**copper**-loaded, in liq. chromatog. of amino acids)  
RN 9012-76-4 HCAPLUS  
CN Chitosan (8CI, 9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*